

PCWorld

17 SECURITY THREATS

AND HOW TO STOP THEM *NOW*



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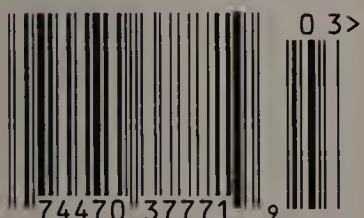
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MARCH 2009

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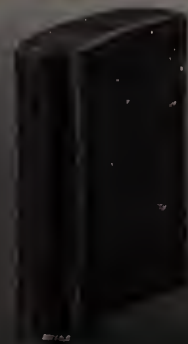
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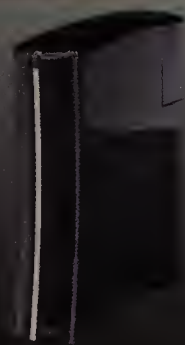
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Web Drugs: An Investigative Reporter Digs In

IF YOU'RE INVOLVED in questionable activities on the Web, just about the last person you want to hear from is Tom Spring. The *PC World* senior writer is a born investigative reporter. With a nose for news, an impressive database of insider contacts, and a dogged unwillingness to let go until he's convinced he has nailed the truth, Spring isn't afraid to make people uncomfortable. In his ten years at *PC World*, he has ferreted out unscrupulous business practices, exposed financial flimflam, and laid bare more than his share of bogus product claims.

This month, though, Spring shines a light on a class of products that does exactly what its distributors say. Normally we'd offer praise for that kind of behavior. But when the goods in question are highly potent, psychoactive substances readily available to anyone with access to a Web browser, delivering on product claims turns out to be problematic and possibly even deadly. For "Online Drugs: Mostly Legal, Maybe Lethal" (see page 12), Spring plunged into the subculture of Web distributors who offer *Salvia divinorum* and other largely unregulated substances that users—most disturbingly teenagers—are buying to get high.

When he began researching the story last year, Spring assumed that he would be digging into your basic online scam—a classic *PC World*-style investigative piece. Though he had identified scores of sites selling these substances and had found numerous YouTube videos of kids acting stoned after ingesting them, he was still skeptical.

"I assumed that most people were getting hoodwinked," he says. "I didn't believe anyone could buy an herb online that would produce strong opiate-like effects. I was guessing that people were getting ripped off and were too

Just because a substance is "natural," easy to obtain online, and mostly legal doesn't mean that it's safe to put in your body.

embarrassed to call the Better Business Bureau to try to get their money back."

To test his hypothesis, he ordered up piles of herbs, seeds, and mushrooms and contracted with the National Center for Natural Products Research at the University of Mississippi to evaluate his stash. Turns out, nearly everything he had purchased packed a psychoactive wallop. Some of the drugs were particularly potent: "Some sites sell the same



REPORTER TOM SPRING: If he's on the other end of the phone, you may be in trouble.

stuff that shamans in Central America use to go into trances. Others sell herbs that have had their potency increased by 20 to 100 percent." Even more remarkable to Spring, these mind-altering substances are legal in some, though not all, states and are not yet regulated by the DEA, meaning that they are perfectly legal in much of the country.

The Science Is Sketchy

That lack of oversight horrifies and infuriates some parents, who blame herbs such as *Salvia*, poppy seeds, and datura for their children's deaths. Though the parents' stories are heartrending, proof that these substances caused their children's deaths is difficult to come by.

"Many of these herbs haven't been studied yet, so it's not clear whether they're dangerous," notes Spring. The dearth of data becomes critical as online vendors offer ever more potent versions of these drugs. "There's simply not enough science behind this yet," Spring says. Still, given the abundance of anecdotal evidence, he believes the feds will be forced to step in soon.

In the meantime, is Spring worried that, by reporting on this story, he might be introducing kids to dangerous drugs they would otherwise not have known about? "If you're experimenting with drugs and want to get high, your search engine will do a better job than this article in *PC World*," Spring says. "My job is to give people accurate information on what's out there and what the dangers are. There is an overwhelming amount of misinformation about this. People deserve the facts," he insists—and the facts are sobering.

During his months-long investigation, Spring spoke with two parents who blame psychoactive substances for their children's deaths. These parents told Spring that they actually had known what their kids were doing, but had assumed it must be okay. After all, the products were "natural," readily available on the Internet, and—as far as they knew—legal. "Some sites are marketing these as lifestyle drugs to have fun with, and the public is unaware of the potential dark side," explains Spring. If these parents—or their children—had been better informed, who knows what might have happened.

"Truth," says Spring, "is the most powerful drug." ●

Steve Fox is editorial director of *PC World*.

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Games for Windows

A surefire topic for riling up our readers is printer ink and cartridges: How many pages can you get? How much ink is really left when the printer declares that it's empty? Tell us what you think by going to find.pcworld.com/62166 and adding your comments to our article on not-so-spent cartridges.



More on 'How Much Ink Is Left in That Cartridge?'

The one thing I always hated about printers was the exact question this article [*Forward*, January] addresses: How much ink is left when I run out of one color? Then I bought my first Canon IP4000-series printer a few years ago. These printers have individual ink tanks; the tanks are transparent so one can easily see the ink level clearly, and one can anticipate needing ink if a large or critical printing job is coming up. Why can't other companies use transparent or translucent cartridges? Is it because they don't want you to see how much ink you're throwing away when you run out of, say, yellow?

Being able to see the ink, and to replace a single color independently and inexpensively, was a big selling point for me. The system also yields much more ink because each color is in a separate 13ml ink tank. The typical, expensive tricolor ink cartridge can't compare.

Greg Scholl, Middlebury, Connecticut

Enjoyed the article in the January issue on ink cartridges. It reminded me how much the manufacturers use the Gillette razor model: Give the razor away cheaply and sell tons of expensive

blades. The last time I bought an Epson printer, the cost of a full set of replacement inks was greater than the cost of the printer—which included a full set of cartridges (as opposed to “starter” cartridges). It would have been cheaper to buy a second printer, keep the inks, and give the printer away.

I'm writing this note, though, in response to the author's comment about ink cartridges “contributing to the toxic stew in local landfills.” Rather than throw empties away, I recycle them through the United States Postal Service via a supplied postage-paid mailer. I assume that something more eco-friendly happens to the empties if we send them back by this means.

The mailers are available at most post offices; you can also go to www.usps.com/green and click on the *Recycle* link.

Joe Sykora, Woodland Hills, California

...And More on Windows 7

Regarding “Windows 7 First Look” [January]: It's obvious that Microsoft is trying to fix what it broke. But it just can't win with users. I heard of a woman who stated that she didn't know she had to have antivirus software; another user claimed not to know that you had to download updates for antivirus or for

Windows. Microsoft finds a way to help them with warning bubbles in Vista—and now everyone is annoyed and they want the warnings off again.

I agree that Vista was a bit overwhelming for users on that level. But what Microsoft needs to do is to create Windows 7 Smart and Windows 7 Stupid, so that people who actually know how to use Windows have their version and dumb people have the other one.

TechieXP, PCWorld.com comments

Vista's Character Map

January's *Reader-to-Reader* discussed how to insert special characters in documents using Vista's Character Map. For characters that you use on a regular basis, it is easier to place the cursor where you want the character and use **Alt-0-*n***, where *n* is the keystroke number shown in the lower-right corner of the Character Map dialog box.

If you insert special characters frequently, a shortcut to the Character Map dialog box is quite handy.

Barry Pearlman, Chesterfield, Missouri

The big question that needs to be answered about Windows 7 is: How will Microsoft compensate all the Vista users for having paid to be *beta testers*?

Jon45, PCWorld.com comments

HP Reliability and Support

In the wake of February's “Reliability Report Card” on major tech vendors and their support, how about a word of praise for HP? Although it received low marks in your survey, I had an excellent experience. I initiated a chat with an HP rep because I wanted to install XP Pro on my SR5433WM tower, which shipped with Vista. No XP drivers were available on the HP Web site. The rep went out of his way to find links to the original manufacturers' XP drivers >>

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to save me the trouble of finding them. And I had to wait only a couple minutes to get into a chat. HP made my day.

Martin P. LaGrow, Kaukauna, Wisconsin

Emergency Cell-Tower Power

The White House was right to reject the FCC plan to mandate 8 hours of backup power on every cell-phone tower in the country (find.pcworld.com/62302). Such a requirement would do more to cripple cell service than any natural disaster.

Did the FCC consider the immense cost of the plan—surely to be passed down to consumers—of providing backup power to hundreds of thousands of cell towers? No, it didn't. The FCC tried to implement the plan without receiving any public comments.

While cell service is stressed during a disaster, the fact is that at least some service is available even after the worst storms. After Hurricane Katrina, mobile phone carriers quickly swooped in with portable stations to restore service. Why? Because it was in the telecoms' interest to keep customers connected.

That motivation, and not a heavy-handed government mandate, will suffice to serve the public.

*James G. Lakely, Managing Editor
Infotech & Telecom News*

What Xobni Does

In the October *PCW Forum*, a reader's letter expressed some confusion over what happens during Xobni's setup process, so we'd like to explain exactly what Xobni does after installation.

Xobni displays fun facts that help you discover statistics about your communications with contacts. For example, Xobni may say, 'John Doe has the fastest response to your e-mails.' Each of these facts can be shared, but to do so you must click a 'Click to Send' button that appears with each fact. Xobni never has and never will send an automatic e-mail; if the button is not clicked, the screen will continue to the next fact without sending anything.

Many users have told us that these fun facts are a convenient way to find

out more about their e-mail relationships, and that having an easy way to share them—only when they choose—is a great feature. We appreciate the honor it is to be so close to people's inboxes, and we understand that the data inside is extremely private. Xobni will never use your e-mail data in unauthorized ways, including sending messages that you don't explicitly allow.

Matt Brezina, cofounder, Xobni

Editor's note: For the original review of Xobni, see find.pcworld.com/62303.

Office 2007 'Missed the Boat'

I have to respond to Craig Tisinger's letter in the January *PCW Forum*, where he lauded Microsoft Office 2007 for innovation with visual effects.

He misses the whole point of business software. It needs to be evolutionary, not revolutionary. Microsoft totally missed the boat on Office 2007.

No company wants to have to retrain personnel. I can't imagine a company telling 5000 staffers they must be trained on a new version of Office because Microsoft moved everything around. Fancy visuals are a total waste when one uses a spreadsheet or a database. Microsoft needs to provide a "classic" view to allow continued productivity.

Jens Jensen, Windsor, Vermont

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CLARIFICATION

IN THE DECEMBER *Fact Check*, we discussed using wrist-strap ground cords, such as those from ESD Systems. Before connecting the No-Doubt Ground Cord to your electrical outlet, you should confirm that your outlet is properly wired, with the ground connection running to a true and stable ground.

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ASUS recommends Windows Vista® Ultimate

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Forward

Online Drugs: Mostly Legal, Maybe Lethal

The Internet has become a flourishing supermarket for herbs, mushrooms, and other substances that will get you high—but may also make you very sick.

BY TOM SPRING

WITH A FEW drops of a liquid hallucinogen under his tongue and incense in the air, Frank Ramirez transports himself to a different world. With his eyes shut and his legs crossed, he says, first he feels warm and flushed. Then the rush of the drug swirls into his head, and he says he becomes “one with the room,” able to see and talk with long-deceased relatives.

“Sometimes I cry or laugh,” Ramirez says. “It’s a spiritual trip. A brief glimpse into a beautiful world we don’t even know yet.”

Ramirez is on drugs, but he’s breaking no laws in Texas, where he resides. He has been ingesting *Salvia divinorum*, a once-obscure member of the mint family that ascetic Central American shamans have used for centuries. Now the herb is



PC WORLD PURCHASED herbs and other supposedly mood-altering substances from a variety of online vendors. University of Mississippi researchers then tested them to determine their health risks.

as easy to buy on the Internet as a book, and is celebrated in countless YouTube videos starring dazed and confused-looking kids of high school and college age (see find.pcworld.com/62330). Traffic to sites that sell *Salvia* and other drugs is rising.

When it comes to powerful mood-altering drugs available for purchase online, *Salvia* is just the tip of the iceberg. At a time when authorities are

cracking down on the illegal sale of steroids and prescription drugs on the Web, sales of substances such as kratom and prickly poppy, which pack a narcotic-like and psychedelic punch, are booming on the Internet. Authorities are beginning to take note.

Legality in Flux

Many of these substances are legal in much of the United States, but the situation is

changing quickly, especially for *Salvia*. At this writing, 13 states have regulated it in some way, and bills to regulate the drug are pending in others, including Texas. Federal officials are also considering *Salvia* regulations.

Online storefronts such as Bouncing Bear Botanicals (www.bouncingbearbotanicals.com) and Psychoactive Herbs (www.psychoactiveherbs.com) sell a panoply of substances

capable of delivering a powerful high. On Psychoactive Herbs' site, for example, you can buy kratom, described on the site as a "substitute for opium" and as producing feelings of euphoria. As recently as last fall, eBay sellers auctioned *Salvia*, a fast-acting and potent hallucinogen that researchers say is comparable to LSD, for about \$15 a gram (in September eBay instituted a ban on the sale of such substances).

Substances Tested

PC World bought 19 of these supposedly psychoactive substances from various online sources (see find.pcworld.com/62331 for close-up pictures of the drugs). We then asked researchers at the National Center for Natural Products Research (NCNPR) at the University of Mississippi to analyze what we bought and to explain the risks of taking the substances. Their verdict: Most of the substances—assorted roots, mushrooms, and leaves from all over the world—really can get you high. But some might also make you very sick or even kill you. For more on the UM researchers' findings, visit find.pcworld.com/62333.

"With some of these substances, it's like playing Russian roulette with your life," explains Dr. Ikhlas Khan, the NCNPR's assistant director. "With others the risk is on a par with smoking one [tobacco] cigarette."

It's impossible to know the specific risk without getting a lab to test what you have, he says. "There is a lot of misinformation about these substances on the Internet



SOME ONLINE SELLERS of herbs and other drugs offer related equipment, and post customer ratings of each substance's quality.

and what their effects are on those that take them."

If you search for "Salvia" on YouTube, for example, you'll find hundreds of testimonials from people who have taken the drug. Hands-on types can visit sites like NeuroSoup (www.neurosoup.com) to view step-by-step tutorials on how to squeeze venom from Colorado River toads and extract a naturally occurring form of a powerful hallucinogen. Can't find a *Bufo alvarius* locally? Bouncing Bear Botanicals will sell you one live toad for \$150 or an "adult male and female pair" for \$250.

The owner of Bouncing Bear Botanicals, Jon Sloan, says that sales at his site have grown considerably over the past year, but he declines to share figures. Other sites, such as Herbal Fire (www.herbalfire.com) and Shaman's Garden (www.shamansgarden.com), did not respond to our requests for comment.

Judging from page-view records, the sites are growing in popularity if nothing else. Traffic-monitoring firms Compete and Quantcast show an increase in unique monthly visitors during the

past year to several Web sites that sell legal herbs.

According to Compete, the number of unique visitors to Bouncing Bear Bo-

tanicals has grown by 32 percent over the past year to as high as 37,000 each month—about the same amount of traffic that Frito-Lay gets to its Cheetos.com Web site.

Seller Disclaimers

Sites selling these products are careful to post disclaimers warning people not to ingest them. HerbalFire.com's notice is typical: "None of the products sold are for human consumption." Rather, the site says, they are "sold for research, education, and propagation purposes only."

Lawmakers, drug-abuse experts, and customers of >>

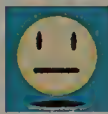
PLUGGED IN ALAN STAFFORD



PALM PRE-SUSCITATED: New OS revives flat-lining PDA—er, phone—company. But only on Sprint; once again, Verizon is left pacing in the waiting room.



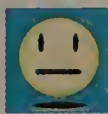
CAR-FREE PHONING: National Safety Council calls for ban on phoning while driving. What's the problem? My GPS unit will tell me when I'm about to run you over.



GOOGLING BURNS CARBON: Report says searches generate CO₂. I'll just drive to the library. That's worse? Okay, I'll call a librarian. No? Wait—smoke-signal chat.



DUDE, MY BAD: Dell settles with 46 states for misleading consumers about financing terms, warranties, rebates. The other four states? They're states of Dellnial.



DRIVING WHILE DISHED: AT&T will introduce satellite-based in-car TV service. Comcast is said to be considering service, too, with a really long coax cable.



WON'T HURT A BIT: Microsoft says you must download a tool kit to block automatic delivery of Internet Explorer 8. That's right—a download to prevent a download.



these sites say no one pays much heed to the warnings. "These disclaimers are a joke," says Dr. Howard Samuels, executive director of the Wonderland Center, a Los Angeles drug rehab center.

Sites such as Salvia Dragon (www.salviadragon.com) post testimonials to their products. "I felt what it's like to leave my body, and then reenter it like it was a robot," reads one endorsement.

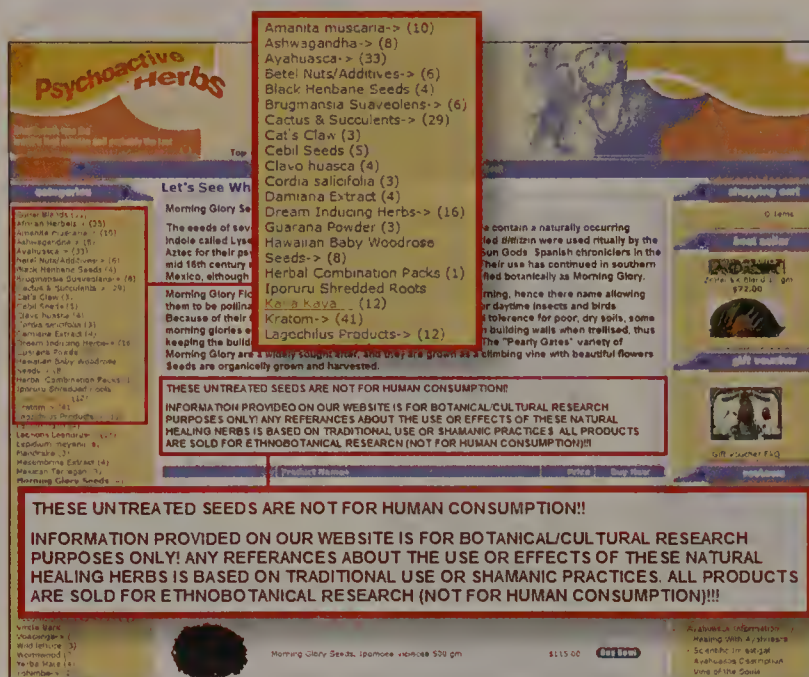
"This is a classic case where laws are one step behind the Internet," Samuels says. "For many vulnerable people, this is an open invitation to experiment, and is an accident waiting to happen."

Not Your Father's Morning Glory Seeds

Determined teens and thrill-seekers of all ages have long experimented with legal ways to get high—for example, eating morning glory seeds or smoking catnip. But experts say the Internet has changed things: Just as the Web has made previously hard-to-find products more accessible, it is making stronger substances easy to learn about, find, and buy.

Techniques used to increase herbs' potency have also improved. Experts say sellers have learned to isolate and amplify many of the psychoactive elements within the herbs, selling them at 10X or 30X potency. *Salvia* is sold in 50X extracts and kratom at 30X. "This isn't the stuff that kids were buying just years ago. This stuff has been engineered to deliver a much more potent high," Samuels says.

Sloan of Bouncing Bear



MOST SITES THAT sell herbal products post disclaimers warning against human consumption, which experts say are largely ignored.

Botanicals says that the Internet's reach to places such as Central America has also allowed tribes to go online and sell native herbs to distributors. "All of a sudden, with a used PC and a dial-up Internet account, these isolated tribes have a way to sell plants they have easy access to," Sloan says.

Feds Watching Closely

What does the U.S. Drug Enforcement Agency have to say about all of this? Right now, not much.

DEA spokesperson Rogene Waite says that some of the drugs in question are currently "under review" by the DEA but remain legal under federal laws. Waite does acknowledge, however, that the DEA has *Salvia* in its crosshairs and is currently evaluating whether to use the Controlled Substances Act to make *Salvia* possession illegal. "Just because something is not illegal or regulated by the DEA doesn't mean it's not dangerous," Waite notes.

The Food and Drug Administration shares that

stance. FDA spokesperson Michael Herndon says that herbs, mushrooms, and seeds sold on the Internet do not need to be approved by the FDA before they're offered for sale. Nevertheless, Herndon says, if the FDA receives complaints that someone has become sick as a result of consuming what they purchased, the FDA would consider investigating.

Injury, Death a Rarity

Reported incidents of injury or overdosing related to the ingestion of natural stimulants and hallucinogens are rare. "Emergency-room visits are infrequent," says John Qaqundah, a practicing hospital pharmacist and assistant clinical professor with the University of California San Francisco's School of Pharmacy. He says most ER visits stemming from the use of hallucinogens result from bodily harm: Someone falls down and bruises a bone.

Reports of deaths due to *Salvia* are almost nonexistent, but the parents of Brett Chidester, a Delaware teen who committed suicide

in 2006, think his *Salvia* use led to his death. "I believe the use of *Salvia* was reshaping Brett's mind, distorting how he viewed himself and the world around him," Kathleen Chidester says. "I think he just snapped." See find.pcworld.com/62332 for more details on Chidester's crusade against *Salvia*.

The county medical examiner eventually agreed, revising Brett Chidester's death certificate to list *Salvia* as a contributing cause of death; the boy's parents subsequently persuaded Delaware lawmakers to classify *Salvia* as a Schedule I controlled substance in that state, making the possession, use, or consumption of the drug a misdemeanor.

Delaware was following the lead of Louisiana, which in 2005 became the first state to criminalize *Salvia* possession. As of this writing, Florida, Illinois, Kansas, Michigan, Mississippi, Missouri, North Dakota, Oklahoma, and Virginia have followed suit, classifying *Salvia* as a Schedule I drug and giving it the same legal status as ecstasy and LSD. In Tennessee, the ingestion of *Salvia* is a Class A misdemeanor, but possessing the herb is legal. In California and Maine, possession is legal but sale to a minor is prohibited.

"My hope and goal is to have *Salvia* regulated across the U.S.," says Kathleen Chidester. "To lose a boy so bright, so warm, so intelligent, with so much to offer the world, is incomprehensible to me—all due to a mind-altering drug that continues to be legal in many states."



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Dell Settles Lawsuit Alleging Misleading Practices

DELL WILL PAY \$3.85 million to 46 U.S. states under a settlement agreement following allegations that the company used deceptive practices to sell its products.

Dell will provide restitution to customers who ran into problems with its financing promotions, rebate offers, tech support, and repair policies, according to state attorneys general. The company will pay \$1.5 million to a restitution account and the rest to the states to reimburse legal costs and other expenses, says Dell, which did not admit to wrongdoing.

If you bought a Dell product between April 1, 2005, and April 13, 2009, you may be entitled to settlement money from the company.

States started investigating Dell's sales practices after receiving complaints. *PC World* conducted interviews and research regarding the allegations in mid-2007 (see find.pcworld.com/62325). Customer complaints ranged from never receiving promised rebates, to being charged higher interest rates after



applying for zero-percent financing, to having trouble obtaining warranty service on their PCs, according to the Washington State Attorney General's Office.

"The deals Dell made and the terms computer buyers thought they agreed to didn't always compute," said Katherine Tassi, Washington assistant attorney general, in a statement.

Customers are eligible for restitution if they bought a Dell product between April 1, 2005, and April 13, 2009, and have a complaint addressed by the agreement. The deadline for filing claims is April 13; for details on how to proceed, your best bet is to check the Web

page of the National Association of Attorneys General (find.pcworld.com/62324).

The issues arose in only a small percentage of the tens of millions of Dell consumer transactions in the states during the four-year period, Dell said in a statement. "Dell had previously addressed the issues directly with many of the customers involved and many were satisfactorily resolved prior to the states' involvement," the company said.

Dell has also agreed to provide further disclosures to make sure that customers are fully informed about its financing and service offers.

"This settlement ensures that Dell consumers will receive full disclosure concerning Dell's promotional offers, and provides for changes in Dell's business practices that will aid consumers in making informed choices about purchasing Dell products and services," Martha Coakley, Massachusetts attorney general, said in a statement.

—Agam Shah

Online Sales Tax Survives Latest Legal Challenge

EARLIER IN 2008 the state of New York passed a law (dubbed the "Amazon tax") that requires online retailers to collect state taxes from their customers. Both Amazon.com and Overstock.com objected and sued the state, but now a New York judge has thrown out the Web retailers' objections.

The ruling, which essentially approves the "Amazon tax," contradicts a 1992 U.S. Supreme Court decision that says retailers do not need to tax residents of a state where the company has no physical presence.

Adding to the controversy surrounding the latest decision is the Streamlined Sales Tax Project (SSTP), a collaborative effort involving 15 states that's intended to—

you guessed it—simplify the collection of sales taxes. SSTP helps its members by sending tax-collecting responsibilities to outside parties so that online retailers don't have to crunch the tax numbers themselves. The organization offers online sellers amnesty for certain unpaid or uncollected taxes, too. Basically, the SSTP is supposed to ease an online company's transition from not paying assorted states' sales taxes to paying them.

Now that Amazon and Overstock's objections have been thrown out in New York, other states may follow the same course and require their residents to pay sales taxes on online purchases—making shopping on the Web a little pricier for many more people.

—Brennon Slattery

VIDEO GAMES

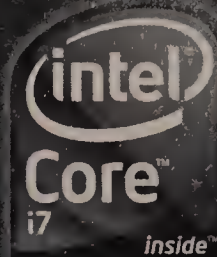
Games No Murder Defense

VIDEO GAME ADDICTION doesn't explain or excuse Daniel Petric's shooting his parents, ruled an Ohio judge in January.

Petric shot his parents after they took his copy of the Xbox 360 game Halo 3 away in September 2007. Petric—16 years old at the time—snuck out of the house to buy the game after his father forbade him to. His parents caught him returning home, took the game from him, and placed it in a lockbox in their closet, which also housed a 9mm handgun.

A month later Petric grabbed the game as well as the gun, and shot his parents, killing his mother and wounding his father.

Petric's lawyers insisted that the boy's age and "video game addiction" exerted an inexorable grip on his ability to restrain himself from committing the heinous acts. —Matt Peckham



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AMD Launches Phenom II CPU, Its Fastest Yet

TWO DAYS SHY of a year since Intel launched Penryn, its first 45nm processor, AMD finally countered with a few 45nm CPUs of its own, releasing the Phenom II in January. But based on our hands-on testing of two Phenom II-based desktops—the Dell XPS 625 and the Maingear Dash—the chip isn't quite as dominating as AMD would have you believe.

Phenom II Explained

AMD is positioning its Phenom II products between Intel's Core 2 Quad and Core i7 offerings. Phenom II chips are available in two versions: the X4 920 and the X4 940 Black Edition, which compete tit-for-tat against Intel's highest Core 2 Quad CPU frequencies at 2.8 and 3.0 GHz, respectively.

AMD bumped the amount of shared L3 cache of the Phenom II processors from 2MB up to 6MB, giving each CPU a total cache of 8MB. The move puts Phenom II processors right in the middle of Intel's Core 2 Quad lineup for cache size, but the result is still short of the 12MB caches provided on higher-end Core i7 chips.

Though limited overclocking of the 920-edition processors is available through AMD's OverDrive software, the company is tipping its hat toward the extreme-performance crowd with its Black Edition processors. These CPUs run multiplier-unlocked, which liquid-nitrogen-armed enthusiasts have been able to push to frequencies above 6 GHz,

AMD's answer to Intel's Core 2 Quad and Core i7 doesn't set any speed records—or even come close—but it has advantages for upgraders.

surpassing the record for Intel Core i7 processors, which stands at 5.5 GHz.

Peppy Performance

The Phenom II's integrated memory controller and HyperTransport interface give it a technical edge over Core 2 Quad chips, which lack those features. Intel moved to an integrated memory controller and began incorporating its version of HyperTransport, dubbed QuickPath Interconnect, only with Core i7.

In comprehensive *PC World* lab testing of Dell's XPS 625 (find.pcworld.com/62316) and Maingear's Dash (find.pcworld.com/62326), the brand-new chips failed to blow Intel's Core 2 Quad and Core i7 out of the water. The XPS 625 earned a World-Bench 6 score of 108, and the Dash posted a score of 117. The Dash's score tied for the fastest mark among value



DELL'S XPS 625 performed well relative to other value desktops.

PCs we've tested, but it's far below the scores received by systems competing for our power desktop PCs chart.

Upgraders' and Overclockers' Dream?

However, AMD is waging its war against the speedier Core i7 chips on price, not performance—especially for potential upgraders. Moving from a Core 2 Quad CPU to a Core i7 chip requires buying a new motherboard and memory, in addition to the processor. Moving from a Socket AM2+ CPU to a Phenom II requires buying only the new processor. And if you wait to upgrade to an AM3-socket Phenom II, expected to be out early this year, you can still keep your DDR2 memory, and possibly even your motherboard.

But from what we've seen so far, the price benefit isn't

substantial if you're in the market for a new computer: The two Phenom II systems we tested each rang up at \$1499; three of our higher-performing power PCs (including both Core i7 and Core 2 Quad models) cost from \$1600 to \$1800.

AMD's next-generation platform is launching alongside the Phenom II. The new Dragon platform (successor to the Phenom quad-core-based Spider) consists of 790-series motherboard chip sets and 4800-series Radeon HD graphics cards. The platform focuses on energy savings, thanks to a combination of AMD's Cool'n'Quiet 3.0 software and the 45nm architecture. Together, they allow Phenom II processors to reduce their heavy-load power consumption by a reported 30 to 40 percent versus Phenom processors, with a savings of up to 50 percent at idle.

Judging from our testing, a Phenom II will require a solid system backed by strong overclocking to surpass the prowess of even a midrange or high-end Core 2 Quad processor. If you're looking to upgrade your rig and you care more about simplicity than you do about high stock clock speeds, AMD's single-CPU upgrade is a powerful statement. As for performance, perhaps AMD's new products will seem more appealing as soon as extreme-system manufacturers start pushing their Phenom II chip sets past the 4-GHz barrier.

—David Murphy



MAINGEAR'S DASH produced excellent graphics in our tests.

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Palm Pre Enters Smart-Phone War

PALM HAS ANNOUNCED its long-awaited new operating system, called Web OS, as well as its new Palm Pre smart phone. The Pre will be available exclusively on the Sprint 3G Network in the first half of 2009.

The handset marks Palm's effort to regain leadership in the smart-phone market. Aiming for the coveted niche between iPhones and BlackBerrys, the Pre with Web OS attempts to meld enterprise and entertainment functions in one device. Palm has not released pricing for the Pre.

The phone has a multi-touch screen, a vertical slide-out QWERTY key-

board, and an accelerometer. EvDO-capable and Wi-Fi-enabled, it has GPS, Bluetooth 2.1 with stereo support, and 8GB of storage.

The Pre has a 3.1-inch display with 320 by 480 resolution. The multitouch support extends beyond the display to the center button, which Palm calls the gesture area for launching applications. A 3.0-megapixel camera with an LED flash is included as well. The Pre is smaller than the iPhone and other rivals, and weighs 4.8 ounces.

The open-source Palm Web OS home screen has customizable widgets at the bottom. Touch a widget, and the corresponding app pops

PALM'S PRE PHONE and Web OS promise to satisfy both business and entertainment needs.

up. All of your open apps appear as a deck of cards; you scroll through your "deck" by flicking from side to side on the gesture pad.

One key element of Web OS is what Palm calls "synergy," the syncing of information from various sources. For example, if you begin typing an e-mail message addressed to a specific contact, Web OS searches your e-mail accounts; if the Pre can't find the contact, it searches your corporate exchange database and automatically enters the name into your contacts list.



Palm also announced the Touchstone, a wireless charger that uses inductive technology. Put the Pre on the magnetic Touchstone, and it stays in place to charge.

—Ginny Mies

BETA WATCH EDWARD N. ALBRO

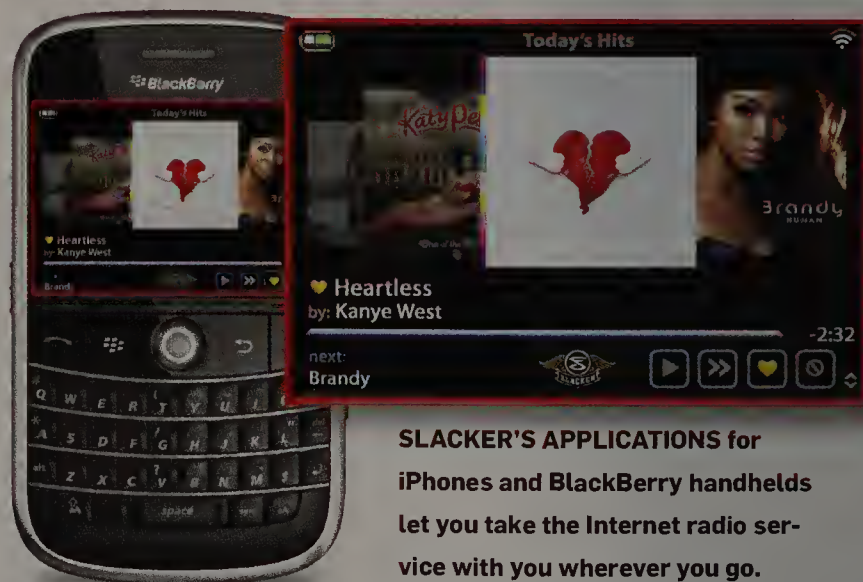


Zentact: Keep in Touch, Semiautomatically

If, like me, you're terrible about keeping in touch with old friends, you need more than just a contact manager. You need a nudge, something that will harass you about dropping a line to your college roommate or your ex-boss. Zentact does that, but not without some work from you. First you have to import your contacts, and then you must tag them with their interests (that's the only labor-intensive part). Then, as you browse the Web, Zentact suggests pages that one or more of your friends might be interested in. If a friend is looking for a job, for example, and you browse to a job board, Zentact will recommend e-mailing that person a note with the link, making the process almost automatic. zentact.com

Slacker: Music on Your Phone

Slacker launched as an Internet radio service with a difference: It also sold MP3-player devices that could stream the radio service. But most people have another device in their pockets that can do the job—a cell phone. With the launch of Slacker's iPhone and BlackBerry applications, you can get the same lineup of stations, such as Classic Jazz or '70s Hits. The apps also allow you to search for an artist and find stations dedicated to that performer and related musicians. It's a great way to get music—but beware of what it will do to your phone's battery life. slacker.com



SLACKER'S APPLICATIONS for iPhones and BlackBerry handhelds let you take the Internet radio service with you wherever you go.

ScreenToaster: Online Screen Captures

All teachers know that it's better to show than to tell. And showing other people something happening on your computer's screen doesn't get much easier than with ScreenToaster. Sign up at the ScreenToaster site, press <Alt>-S, and you're recording. Once you have finished recording, you can add captions. Afterward you can upload the video to ScreenToaster's servers or to YouTube—or download it as an AVI file. screentoaster.com

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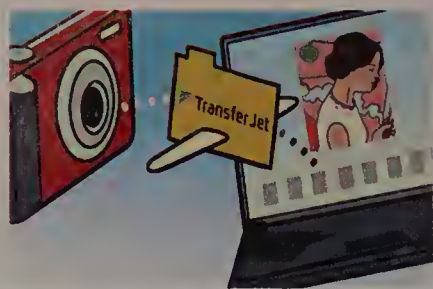
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TransferJet: A Better Bluetooth?

WATCH OUT, Bluetooth—here comes TransferJet.

TransferJet wireless technology, under development by major camera makers, is intended to make wireless transfer of images between devices easier. Now Toshiba is getting behind the wireless standard, having shown off a laptop that uses the technology at the Consumer Electronics Show in January.

The companies pushing the technology tout TransferJet (www.transferjet.org) as being more than 100 times faster than Bluetooth, and they say transferring data between devices needs no passcodes or pairing (as Bluetooth requires). Place a camera with TransferJet on the Toshiba laptop's palm rest, and it will automatically sync files on the camera with the laptop's hard drive.

The new technology can achieve throughput of 357 mbps—fast enough to support streaming video from a camcorder, for example.

Toshiba says that it expects some impact on battery life, but not a significant one. The company plans to embed the technology in laptops and external devices in the fourth quarter of this year.

—Melissa J. Perenson

GEEKTECH

The PC World Challenge: 72 Hours of Windows 7

HAVING COMPLETED 72 hours in Windows 7 (x64) beta land, I'm not about to bore you with a list of everything that's new. What I will describe is what jumping to Windows 7 is like—namely, how the new features affect everyday use. Would I buy it to replace Vista? Read on.

Installation: Compared with Windows XP, Vista and Windows 7's similar installation routines are a godsend. But I'd love to be able to set all the options I need up front, so I can just sit back and let the roughly 25-minute process do its thing. I have a 3-GHz Intel QX9650-based PC with 4GB of memory; I can only imagine how long the install might take on a slower system.

Getting started: One nice touch of Windows 7 is that it installs with more configured drivers than its predecessor had. My Windows Vista installation had five unknown devices attached, requiring me to find and install drivers for my graphics card and for my motherboard's ethernet adapter. Windows 7 set itself to the highest resolution my monitor supports, using what appeared to be ATI-

friendly Microsoft drivers. My Internet connection worked immediately, allowing me to fetch what I needed without having to find the CD that came with my motherboard. Nice.

Further inspection of the ethernet drivers revealed that they were less than stable for my PC. The machine froze whenever I tried to copy files from my NAS device while downloading Warhammer over Steam; I had problems doing anything other than surfing the Web. Resorting to my motherboard's CD drivers fixed the issue.

Compatibility: I had no problem using a barrage of common apps, such as Microsoft Office, Steam games, Adobe CS4, Hamachi, UltraVNC, and Revo Uninstaller. On the other hand, Apple's iTunes 7 hung during the installation, and Windows 7 didn't like Daemon Tools, which I use to

Is it feasible for a geek to switch completely from Vista to the Windows 7 beta? We find out.

mount .iso disc images of software I own (to avoid scratched or lost discs). That brings up a question: Will developers have to support XP, Vista, and Windows 7 versions of their apps? I venture to say yes, at least for Vista and 7.

Using Windows 7: Sure, the taskbar is a little different, Windows Explorer has a newer feel to it, and the desktop has fun little transparent gimmicks and what-have-you. But Windows 7 still feels extremely similar to Windows Vista.

That said, gone is the hideous network lag that made me wait 30 seconds to connect to my NAS. Windows 7 pulls it up as if it were just

another folder.

I also appreciated that maximized windows are no longer locked to all four corners of your screen.

User Account Control (UAC) is back. Thankfully, you can specify different levels of annoyance with a slider, and that's that. Windows

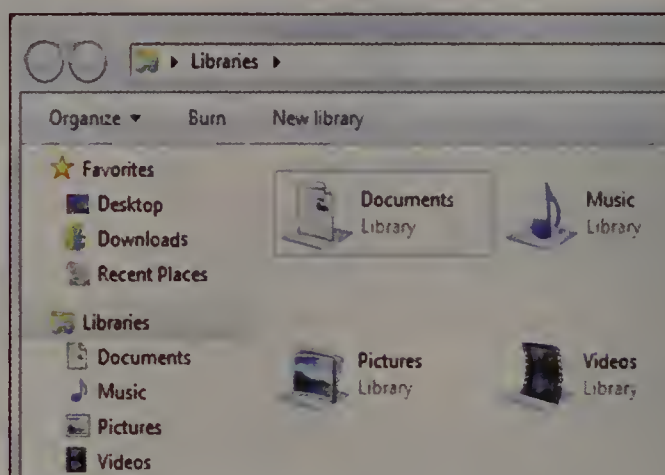
Firewall has received a substantial upgrade, too.

Finally, Windows 7 has the new ability to wipe out a user's changes via PC Safeguard. It's a must-have for anyone wanting to keep a system junk-free when kids or pranksters are around.

Early verdict: I like the direction of Windows 7. An extensive firewall system, a new backup and restore feature that would dissuade me from buying an off-the-shelf product, PC Safeguard... they're all neat tools. But at this admittedly early stage, I'm not sure that the intriguing apps and pretty functionality (which a collection of freeware can mimic) will drive me to pay for an upgrade. I think I'll stick with Vista—for now.

Visit find.pcworld.com/62323 for my full write-up and links to detailed feature overviews.

—David Murphy



WINDOWS 7'S LIBRARIES are great for organizing files without having to maintain a traditional folder structure.

Need a server for your small business?

Look no further.

Introducing 1&1 Premium Servers, a powerful new line of dedicated servers specifically designed for high performance needs. Featuring energy efficient technology, these top-of-the-line machines reduce costs and environmental impact with increased performance-per-watt.

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Quad-Core
Server**



Parallels®
Plesk Control Panel



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- RAID
- Plesk 8 with 100-domain license
- FTP backup space
- Serial Console: Connect directly to the serial port of your server, even if the network is down.
- Recovery Tool: Load rescue image and reboot server.
- GeoTrust Dedicated SSL certificate (a \$49 value!)
- Easy-to-configure firewall and more!

1&1 BUSINESS SERVER II

Dual-Core AMD Opteron™ 1218, 2 x 2.6 GHz,
4 GB DDR RAM, 2 x 500 GB Hard Drive

~~\$199.99~~ per month

**3 months
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HURRY! Special offer ends February 28th.

1&1 ENTERPRISE SERVER I

Quad-Core AMD Opteron™ 1352, 4 x 2.1 GHz,
4 GB DDR RAM, 2 x 750 GB Hard Drive

~~\$299.99~~ per month

**3 months
FREE!***

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1&1 ENTERPRISE SERVER II

Quad-Core AMD Opteron™ 1356, 4 x 2.3 GHz,
8 GB DDR RAM, 2 x 1,000 GB Hard Drive

~~\$399.99~~ per month

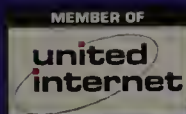
**3 months
FREE!***

HURRY! Special offer ends February 28th.

* Offer valid through February 28, 2009. Prices based on Linux servers. Discount applied to first 3 months of a 12 month minimum contract term, \$99 setup fee applies. See www.1and1.com for full promotional offer details. Certain features not available with Managed Servers. Product and program specifications, availability and prices subject to change without notice. 1&1 and the 1&1 logo are trademarks of 1&1 Internet AG, all other trademarks are the property of their respective owners. © 2009 1&1 Internet, Inc. All rights reserved.

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1&1

New TV Technologies Taking It to the Living Room

THE HDTV SETS below are some of the most advanced models announced at January's Consumer Electronics Show. Most won't ship until at least March of this year.

Several sets can connect to your network and display Yahoo Widgets, which offer news, weather, and other information. No TV makers at the show announced sets

with Tru2Way technology (the next generation of CableCard), though ESPN introduced interactive features built on Tru2Way.

Other innovations to

watch for: 240-Hz (and soon, 480-Hz) LCD refresh rates, more sets with LED backlighting, and better Internet connectivity.

—Alan Stafford ●



THIN AND WIRELESS: With the LG LHX, you connect cables to an included external box, which communicates with the TV wirelessly.



THIN, WIRELESS, WIRED: Cables connect to the Panasonic Viera Z1 via an external box, too; the Z1 can stream HD movies from Amazon.



SEEING RED: Samsung, which has a line of computer monitors with a 'Touch of Color,' introduced new TVs that get the same treatment.



BUILT-IN BLU-RAY: Sharp introduced a line of sets that have built-in Blu-ray Disc drives. The 52-inch LC-52BD80U is the largest of them.



GREEN TV: Sony's KDL-46Z5100 saves power with a 'zero watt' standby mode, and by turning itself off when you leave the room.



TURNED-DOWN TV: Toshiba's Regza 47ZV650U is the first set with Dolby Volume, which moderates audio levels for consistent volume.

Acer recommends Windows Vista® Business.

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March/April 2009



Performance
to go

EXPERIENCE THE LATEST AND GREATEST MOBILE TECHNOLOGY

Acer® TravelMate® 5730

- Intel® Centrino® 2 processor technology
- Genuine Windows Vista® Business
- CD with Genuine Windows® XP Professional¹
- Microsoft® Office Professional 2007 (60-day trial)²
- 2GB DDR2 667 SDRAM
- 160GB³ hard drive
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- 15.4" WXGA (1280 x 800) TFT display
- Intel® Graphics Media Accelerator 4500MHD
- 802.11a/b/g/Draft-N WLAN, gigabit LAN, V.92 modem, webcam
- Fingerprint reader
- Three-year limited warranty⁴

Acer TravelMate 5730-6953

\$999

Intel® Core™2 Duo Processor P8400
(3MB L2 cache, 2.26GHz, 1066MHz FSB)
Genuine Windows Vista® Business
(LX.TQH0Z.378)

circle-line.eu - ADV



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Acer recommends Windows Vista® Business.

Acer® TravelMate® 5730

- Intel® Core™2 Duo Processor
- Genuine Windows Vista® Business
- CD with Genuine Windows® XP Professional¹
- Microsoft® Office Professional 2007 (60-day trial)²
- 2GB DDR2 667 SDRAM
- 160GB³ hard drive
- Integrated Super-Multi drive
- 5-in-1 card reader
- 15.4" WXGA (1280 x 800) TFT display
- Intel® Graphics Media Accelerator 4500MHD
- 802.11a/b/g/Draft-N WLAN, gigabit LAN, V.92 modem, webcam
- Fingerprint reader
- One-year limited warranty⁴



Acer TravelMate 5730-6984

\$899

Intel® Core™2 Duo Processor T5870
(2MB L2 cache, 2GHz, 800MHz FSB)
Genuine Windows Vista® Business
(LX.TQH0Z.379)



Acer B273HU bmidhz \$445

- 27" wide-screen TFT LCD
- 2048 x 1152 maximum resolution
- 40000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), HDMI, four USB signal connectors
- 400 cd/m² brightness
- 5ms response time
- Two 1.5W integrated speakers
- Height, tilt and swivel adjustments (ET.HB3HP.001)



Acer SignalUp

This technology strategically positions two PIFA antennas on the notebook's top panel to generate an omni-directional signal sphere for superior wireless reception.



Acer B243W bdr \$359

- 24" wide-screen TFT LCD
- 1920 x 1200 maximum resolution
- 3000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP) signal connectors
- 400 cd/m² brightness
- 5ms response time
- Height, pivot, tilt and swivel adjustments (ET.FB3WP.001)



Acer DASP

Disk Anti-Shock Protection is a technology that safeguards the hard disk against knocks and provides an unmatched level of protection.

Acer® TravelMate® 4730

- Intel® Centrino® 2 processor technology
- Genuine Windows Vista® Business
- CD with Genuine Windows® XP Professional¹
- Microsoft® Office Professional 2007 (60-day trial)²
- 2GB DDR2 667 SDRAM
- 160GB³ hard drive
- Integrated Super-Multi drive
- 5-in-1 card reader
- 14.1" WXGA (1280 x 800) TFT display
- Intel® Graphics Media Accelerator 4500MHD
- 802.11a/b/g/Draft-N WLAN, gigabit LAN, V.92 modem, webcam
- Fingerprint reader
- Three-year limited warranty⁴



Acer TravelMate 4730-6898

\$999

Intel® Core™2 Duo Processor P8400
(3MB L2 cache, 2.26GHz, 1066MHz FSB)
Genuine Windows Vista® Business
(LX.TQ60Z.102)



Acer B223W B bmzdr \$239

- 22" wide-screen TFT LCD
- 1680 x 1050 maximum resolution
- 10000:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), two USB signal connectors
- 300 cd/m² brightness
- 5ms response time
- Two 1.0W integrated speakers
- Height, pivot, tilt and swivel adjustments (ET.EB3WP.003)



Acer B223W bdmr \$215

- 22" wide-screen TFT LCD
- 1680 x 1050 maximum resolution
- 2500:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Two 1.0W integrated speakers
- Height, pivot, tilt and swivel adjustments (ET.EB3WP.002)



Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.

Acer Bio-Protection

Gain an extra layer of security while eliminating the need to remember passwords and PINs with the Acer Bio-Protection fingerprint reader.

acer.com/us

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Acer recommends Windows Vista® Ultimate.

Acer® Aspire® 6920

- Intel® Core™2 Duo Processor
- Genuine Windows Vista® Ultimate
- 4GB DDR2 667 SDRAM
- 250GB³ hard drive
- Integrated Blu-ray Disc™ drive
- 6-in-1 card reader
- Acer CineCrystal 16.0" WUXGA (1920 x 1080) TFT display
- NVIDIA® GeForce® 9500M GS graphics
- 802.11a/b/g/Draft-N WLAN, Bluetooth®, gigabit LAN, V.92 modem, webcam
- Fingerprint reader
- One-year limited warranty⁴



Acer Aspire 6920-6422

\$1,699

Intel® Core™2 Duo Processor T9300
(6MB L2 cache, 2.50GHz, 800MHz FSB)
Genuine Windows Vista® Ultimate
(LX.APQ0U.090)



Acer V223W bmd \$185

- 22" wide-screen TFT LCD
- 1680 x 1050 maximum resolution
- 2500:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Two 1.5W integrated speakers (ET.EV3WP.002)



Acer QuickCharge

Found on select models, Acer QuickCharge technology enables the notebook's battery to be 80 percent fully charged in just one hour.



Acer V223W bd \$179

- 22" wide-screen TFT LCD
- 1680 x 1050 maximum resolution
- 2500:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time (ET.EV3WP.001)



Acer CrystalEye

Enjoy all the potential of video conferencing with the integrated Acer CrystalEye, simple to use and compatible with Internet-based video and voice communication services.

Acer® TravelMate® 6493

- Intel® Centrino® 2 processor technology
- Genuine Windows Vista® Business
- CD with Windows® XP Professional¹
- Microsoft® Office Professional 2007 (60-day trial)²
- 2GB DDR3 1066 SDRAM
- 160GB³ hard drive
- Modular Super-Multi drive
- 5-in-1 card reader

- 14.1" WXGA (1280 x 800) TFT display
- Intel® Graphics Media Accelerator 4500MHD
- 802.11a/b/g/Draft-N WLAN, Bluetooth®, gigabit LAN, V.92 modem
- Fingerprint reader
- Three-year limited warranty⁴



The webcam shown in this image is not included on the advertised model.

Acer TravelMate 6493-6615 \$999

Intel® Core™2 Duo Processor P8400
(3MB L2 cache, 2.26GHz, 1066MHz FSB)
Genuine Windows Vista® Business
(LX.TQL0Z.001)



Acer B203W bdmr \$205

- 20" wide-screen TFT LCD
- 1680 x 1050 maximum resolution
- 2500:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Two 1.0W integrated speakers
- Height, pivot, tilt and swivel adjustments
(ET.DB3WP.002)



Acer B193 bdmh \$195

- 19" TFT LCD
- 1280 x 1024 maximum resolution
- 2000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Two 1.0W integrated speakers
- Height, tilt and swivel adjustments
(ET.CB3RP.002)

Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.



Acer GridVista

Easy-to-use software designed to automatically split the screen in up to four separate windows and make the most of available screen space.

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Acer® Veriton® M460

- Intel® Core™2 Duo Processor or
- Intel® Pentium® Processor
- Genuine Windows Vista® Business
- CD with Genuine Windows® XP Professional¹
- Microsoft® Office Professional 2007
(60-day trial)²
- 160GB³ hard drive
- Intel® Graphics Media Accelerator 3100
- Gigabit LAN
- One-year limited warranty⁴
with limited on-site service⁵

Monitor sold separately



Acer Veriton M460-ED7201C

\$549

Intel® Core™2 Duo Processor E7200
(3MB L2 cache, 2.53GHz, 1066MHz FSB)
Genuine Windows Vista® Business
2GB DDR2 SDRAM, Super-Multi drive
(PS.V520Z.056)

Acer Veriton M460-ED7200C

\$459

Intel® Core™2 Duo Processor E7200
(3MB L2 cache, 2.53GHz, 1066MHz FSB)
Genuine Windows Vista® Business
1GB DDR2 SDRAM, DVD-ROM drive
(PS.V520Z.055)

Acer Veriton M460-ED5200C

\$419

Intel® Pentium® Processor E5200
(2MB L2 cache, 2.50GHz, 800MHz FSB)
Genuine Windows Vista® Business
1GB DDR2 SDRAM, Super-Multi drive
(PS.V520Z.074)

Veriton Service Upgrades

Next-business-day limited on-site service⁵ for
years 2 and 3 of Veriton L460 or M460 ownership
(146.AB769.003)

\$173

Mail-in/carry-in depot repair coverage for
years 2 and 3 of Veriton L460 or M460 ownership
(146.AB769.004)

\$68



Acer B193W bdmh

\$169

- 19" wide-screen TFT LCD
- 1440 x 900 maximum resolution
- 2000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical
viewing angles
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Two 1.0W integrated speakers
- Height, tilt and swivel
adjustments
(ET.CB3WP.002)



Acer eLock Management

Acer eLock Management locks and unlocks storage media
with password protection for additional security.



Acer V193 b

\$159

- 19" TFT LCD
- 1280 x 1024 maximum resolution
- 2000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical
viewing angles
- VGA signal connector
- 300 cd/m² brightness
- 5ms response time
(ET.CV3RP.001)

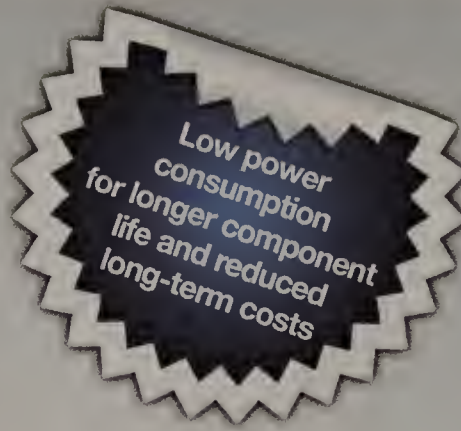


Acer eRecovery Management

Acer eRecovery Management is an easy-to-use utility to create
backups or restore from your archives.

Acer® Veriton® L460

- Intel® Core™2 Duo Processor or
- Intel® Pentium® Processor
- Genuine Windows Vista® Business
- CD with Genuine Windows® XP Professional¹
- Microsoft® Office Professional 2007 (60-day trial)²
- 160GB³ hard drive
- Super-Multi drive
- Intel® Graphics Media Accelerator 3100
- Gigabit LAN, 802.11b/g WLAN with antenna
- Ultra-compact form factor
- One-year limited warranty⁴ with limited on-site service⁵



Monitor sold separately



Acer Veriton L460-ED8400C

\$639

Intel® Core™2 Duo Processor E8400
(6MB L2 cache, 3GHz, 1333MHz FSB)
Genuine Windows Vista® Business
2GB DDR2 SDRAM
(PS.V570Z.057)

Acer Veriton L460-ED5200C

\$499

Intel® Pentium® Processor E5200
(2MB L2 cache, 2.50GHz, 800MHz FSB)
Genuine Windows Vista® Business
1GB DDR2 SDRAM
(PS.V570Z.076)



Acer V193W bd \$139

- 19" wide-screen TFT LCD
- 1440 x 900 maximum resolution
- 2000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP) signal connectors
- 300 cd/m² brightness
- 5ms response time
- Tilt adjustment
(ET.CV3WP.001)



Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.



Acer eDataSecurity Management

Conveniently integrated into the Windows® environment, Acer eDataSecurity Management provides one-click encryption and decryption of your files.

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Acer recommends Windows Vista® Business.

Acer® TravelMate® 6593

- Intel® Centrino® 2 processor technology
- Genuine Windows Vista® Business
- CD with Windows® XP Professional¹
- Microsoft® Office Professional 2007 (60-day trial)²
- 4GB DDR3 1066 SDRAM
- 250GB³ hard drive
- Modular Super-Multi drive
- 5-in-1 card reader

- 15.4" WXGA (1280 x 800) TFT display
- Intel® Graphics Media Accelerator 4500MHD
- 802.11a/b/g/Draft-N WLAN, Bluetooth®, gigabit LAN, V.92 modem, webcam
- Fingerprint reader
- Three-year limited warranty⁴



Acer TravelMate 6593-6325

\$1,499

Intel® Core™2 Duo Processor P9500
(6MB L2 cache, 2.53GHz, 1066MHz FSB)
Genuine Windows Vista® Business
(LX.TPX0Z.198)

Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.

Protect Your Investment with an Acer Notebook Service Upgrade

Quality is built into every notebook PC Acer makes, and each comes with a one-year or three-year standard limited warranty.⁴ It includes hardware technical support via toll-free phone plus a concurrent International Traveler's Warranty for travel outside the U.S. and Canada. For extra protection – and peace of mind – consider a warranty extension or, even better, the **Total Protection Upgrade**. This plan covers the cost of a replacement unit if, as determined by Acer, your covered notebook cannot be repaired.

2-Year Extension of Limited Warranty (146.AB820.EX2)
for Notebooks with 1-Year Limited Warranty
\$99

2-Year Extension of Limited Warranty + 3-Year Total Protection Upgrade (146.AD077.002)
for Notebooks with 1-Year Limited Warranty
(Total Protection Upgrade runs concurrently with limited warranty and limited warranty extension)
\$199

3-Year Total Protection Upgrade (146.AD339.004)
for Notebooks with 3-Year Limited Warranty
(Total Protection Upgrade runs concurrently with limited warranty)
\$99

Each of these upgrades prepays freight from the Acer repair depot and excludes extension of the International Traveler's Warranty.

¹ Genuine Windows® XP Professional can be installed in place of, not in addition to, Genuine Windows Vista® Business.

² The 60-day trial of Microsoft® Office Ready is available with Genuine Windows Vista® Business only, not with Genuine Windows® XP Professional.

³ When referring to storage capacity, GB stands for one billion bytes and MB stands for one million bytes. Some utilities may indicate varying storage capacities. Total user-accessible capacity may vary depending on operating environments.

⁴ For a free copy of the standard limited warranty end-users should see a reseller where Acer products are sold or write to Acer America Corporation, Warranty Department, P.O. Box 6137, Temple, TX 76503.

⁵ For next-business-day response customer call must be received by 4:00 p.m. Central Time. Next-business-day response does not apply to service calls missed for reasons outside the control of Acer, such as airport closures or parts shortages. Next-business-day response and on-site service applies to the continental U.S. and Canada only and may not be available in all locations. In those areas where on-site service is provided, a technician will be dispatched, if necessary, following efforts to resolve the problem by telephone support.

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Consumer Watch

Tax Software 2008: A Big E-File Freebie

BY YARDENA ARAR

GIVEN THE STATE of the economy, the biggest news in tax-prep software this year is something many people believe is long overdue: The ability to prepare and file federal tax forms electronically, free of charge—regardless of how much or how little you make.

If you prefer a more user-friendly tax preparation and filing experience, the usual suspects are back, led by Intuit's TurboTax and its archrival, H&R Block's TaxCut, both with renewed emphasis on the Web versions, which last year attracted more customers than their desktop-software counterparts (see our reviews of the top five tax-preparation sites at find.pcworld.com/62165).

For the freebies, thank the IRS and the Free File Alliance (the tax-software industry group working with the IRS to reach government goals on electronic filing)—but be aware of their limitations. If your adjusted gross income exceeds \$56,000, you won't be getting the kind of tax-prep software you've known—so, no interview or context-sensitive help. And while the tax services that participate in the Free File program offer state tax preparation and filing, they don't do it for free.

Still, for the first time, anyone can fill out and e-file federal tax forms—electronic versions of the same government paperwork you can pick up at the post office, complete with IRS instructions—at no cost. The forms have been available online for some time, but previously you had to print them out and mail them in. It's the ability to e-file them that's new.

Everyone can now use the Free File e-filing program—but it still has some limitations.



If your adjusted gross income is \$56,000 or less (which, according to David R. Williams, director of electronic tax administration for the IRS, applies to some 90 million people, or 70 percent of taxpayers), then you can simply go to the

IRS Free File page (at www.irs.gov) for help in choosing from 20-odd tax-prep packages available free to those who meet the means and other tests. Each tax-software vendor gets to identify eligible segments of the population—some will limit their offers to college students, seniors, or servicepeople, for example—so no single program is available to more than 50 percent of the population. That's to ensure that no single tax-software company gets stuck with handling all Free File users.

Also, all participating programs must now offer, as a minimum, a core collection of 24 key tax forms. In the past, Williams explains, a number of would-be Free Filers dropped out because the program they had chosen lacked a certain

form. The 24 forms that all programs must have should cover the vast majority of tax scenarios, Williams says.

Pushing Tax Filers Online

Thanks to the six-year-old Free File program, the tax-prep software industry has managed to preserve a fairly lucrative business (getting wealthier people to pay for software and electronic filing) by agreeing to provide free software and filing to lower-income customers in order to help the IRS reach its goal (set in a 1998 law) of having 80 percent of all returns filed electronically. Meeting that goal would save the IRS >>

Thinking about filing your 2008 taxes directly with the Internal Revenue Service? Read "Auditor: IRS Still Vulnerable to Cyber Breaches" at find.pcworld.com/62339, and you might reconsider.



SKEPTICAL SHOPPER YARDENA ARAR

money: The agency pegs the cost of processing a paper return at \$2.87, compared with 87 cents for an electronic return. But Williams says e-filing doesn't help just the IRS. "It has always been faster, more accurate, and more convenient for taxpayers," he says.

Still, the 80 percent goal remains elusive, although progress has been made. A recent IRS report states that a record 60 percent of returns were filed electronically during last year's tax-filing season. But rates of adoption for electronic filing are slowing—and reaching the target level will be unlikely under current conditions, the report says.

The lure of Free File is undeniable as tax-prep and e-file fees creep up. For this year, Intuit initially announced that customers for its market-leading TurboTax desktop software would now have to pay to print out additional returns (previously, you could create and print out as many returns as you wished with a single copy of the software). After much user complaining and a PR campaign by H&R Block, Intuit withdrew the additional printout fees.

E-filing fees are included in the cost of Web-based tax-prep services, which tend to be slightly cheaper than desktop software for e-filers doing a single return. In figuring out the costs of tax prep, don't forget to check charges for a state return (assuming you file in one or more of the 40-plus states with income tax). In some cases, a service will throw in prep and e-filing for one state for free; others charge separately and sometimes steeply. Also, although you can keep copies and import data from a Web-based return for use the following year, import and export options tend to be limited, making it difficult to switch to a new service down the line. Transitioning between desktop packages is usually a lot easier.

Finally, watch out for IRS-related phishing—e-mail that purports to come from the IRS or a tax-software company demanding sensitive information. Like other fake financial-services e-mail, this threat has been growing in recent years.

Brick-and-Mortar Markup Rip-Offs

WHILE VISITING MY parents in Florida recently, I bought them an HDTV at Costco. The price of the

42-inch plasma set was right (in fact, it was just two-thirds of what I had paid for a similar set 13 months earlier), and I couldn't bear to watch their old, smallish, and increasingly dated-looking CRT one moment longer.

The Costco buy was a good experience. But the search for an HDMI cable to hook up the TV to their new HD cable box was not. I'd priced the cables online and I knew that they run \$10 to \$15 for the short length I needed (I wasn't looking for a premium cable). But with the set and HD cable box ready to go, we didn't want to wait for the cable to be delivered.

Now, I know that accessories such as cables cost more in stores than they do online. But I wasn't prepared for the extent of the markup. Because Costco sold only a cable bundle when we wanted just one HDMI line, we drove to three other stores. Circuit City's cheapest cable was \$40; RadioShack had one for \$35. The best deal I could find was a \$30 cable at a CompUSA.

Why the Steep Markup?

Since an apparently identical cable went for \$20 on CompUSA's Web site, I felt ripped off. I called Gilbert Fiorentino, CEO of CompUSA's owner, Systemax, to ask why the store couldn't offer the Web deal.

Fiorentino said that unlike some competitors, the company never charges more for the same merchandise in its stores than it does on the Web. However, he said, it's impossible for CompUSA stores to carry the variety of merchandise offered on the CompUSA Web site (and on TigerDirect, which Systemax also

I expect to pay for convenience, but the markup on accessories such as cables in retail stores is outrageous.

owns): A typical CompUSA store stocks about 2500 different items, versus 40,000 on the CompUSA/TigerDirect Web sites. So the stores carry only the most popular merchandise, and Fiorentino said the inexpensive cable was either out of stock or didn't make the cut in terms of customer demand.

When I decided to add an inexpensive home theater system to the mix, I didn't make the same mistake. I got a second HDMI cable from Amazon for \$11 (and a digital optical audio cable for \$13.20). Even with shipping,

I came out way ahead.

I don't mind paying a little extra for the convenience of being able to take home my purchase for immediate enjoyment (this all started with a Costco TV purchase my parents are still

happy with). And sometimes you can score a nice deal by not buying online: I got my Nintendo Wii at its list price (a good deal, for a Wii) when a Best Buy store received a shipment last summer.

But having to pay three times as much for a simple cable irked me. And I've noticed high prices in brick-and-mortar stores for other accessories, most notably flash memory cards. You can always find them for significantly less online.

I don't want brick-and-mortar stores to go the way of the dinosaur, and I recognize that they have costs online stores don't. But I'd patronize local retailers more often if I thought the markup for the convenience was reasonable. Charge me \$20 for the \$15 cable, and I wouldn't be writing this column. But as things stand, I'm content to wait for Amazon to ship me accessories at reasonable prices.



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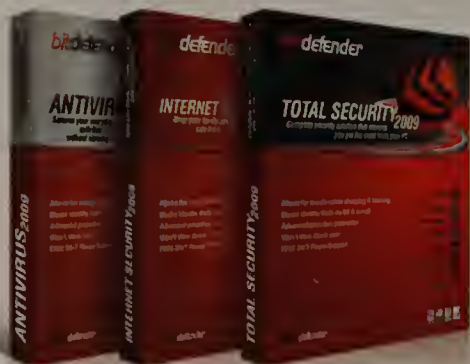
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ON YOUR SIDE GINNY MIES

IN AUGUST, I purchased a Samsung M520 cell phone from Sprint. It worked for a few weeks, but then stopped receiving any signal. I took the phone into the Sprint store, where reps told me that I should contact Samsung for repairs. About a month after I received the repaired phone, it stopped working again. I asked Samsung to replace the phone, but they stated that they would only repair it. After a few months of going back and forth with Samsung, I have had enough of this phone!

James Kirk, New York

OYS responds: The sales reps at the Sprint store apparently misinformed Kirk when he initially took in his malfunctioning phone. Sprint encourages customers to explore all available repair and replacement options through its authorized repair-center stores before contacting the original manufacturer. You can find a Sprint authorized service and repair store at find.pcworld.com/62125.

In general, if your phone malfunctions, first consult your carrier's tech support before sending it to the manufacturer—even if, as in this case, the manufacturer offers a warranty. Repair service offered by a carrier tends to be quicker (Sprint promises a one-day turnaround as opposed to seven to ten days for Samsung), and you can deal with a customer service representative face-to-face.

If, like Kirk, you choose to contact the manufacturer and your problem still isn't resolved, we recommend notifying your carrier immediately, as it may provide other means to resolve the issue.

After we alerted Sprint to Kirk's problems with his phone, a member of its customer service team contacted him and offered to replace it with either the same model of phone or a newer model.

Missing Contact Information

Larry Friedman of Miami purchased Genie Backup Manager from Genie-soft, but never received the product. When no one responded to his e-mail, he contacted us for help. Genie-Soft's site lists e-mail addresses for sales support and for its founder, Muayyad Shehadeh.

We did some searching and sent messages to several e-mail addresses that we found on Soft411.com, a software



information site, and on Alexa.com, a Web information site. A Genie-Soft sales rep responded, saying that the company had e-mailed shipment-tracking information to Friedman. He received the software a few weeks after he ordered it.

If addresses on a Web site don't produce results, try search engines; sometimes you'll find other addresses. As always, check your spam filters when you don't hear from a company, and consider asking your ISP if it is filtering mail from a particular company's domain.

Product Recall: Coby Rechargeable Batteries

The U.S. Consumer Product Safety Commission and Coby Electronics announced a voluntary recall of rechargeable batteries sold with the TF-DVD 1020 series of portable DVD/MP3 players. The Commission stated that the batteries can over-heat, posing a fire hazard to consumers.

Though no injuries have been reported, customers should stop using the player with the battery; they should use the player only with the included AC adapter. Customers can contact Coby at www.cobyusa.com for a free replacement. ●

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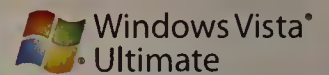
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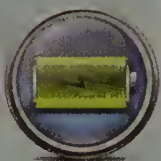
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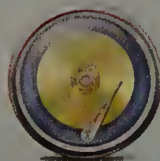
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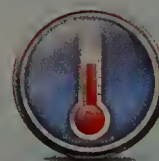
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Optimize Your Web Site for Search Engines

BY CHRISTOPHER NULL

WHETHER YOUR WEB site is brand-new or ten years old, managing how it appears to search engines is crucial to its success. The typical Web site gets 61 percent of its traffic from search engine results, and 41 percent of all traffic from Google alone. For most businesses, ensuring that the company's site ranks highly in search results is a make-or-break proposition—which is why search engine optimization (SEO) is a multibillion-dollar industry these days.

No one knows exactly what combination of tactics will maximize a site's ranking, but people have developed some good approximations based on history and empirical evidence. I asked three experts—Rand Fishkin of SEOmoz, Danny Sullivan of Search Engine Land, and Michael H. Fleischner, author of *SEO Made Simple*—about what tips and tricks someone just starting out with SEO ought to know. Here are the best of their recommendations.

Optimize Your Keywords

Search engine optimization is useless if you don't know what you're trying to optimize. For some businesses, picking appropriate keywords is straightforward. But what terms should an online store emphasize if it sells all kinds of prod-

ucts? And how should a general-interest site that covers a wide range of topics decide which search terms to focus on?

For starters, base your decisions on which terms people are searching for

These SEO tricks can help you improve the ranking of your Web site content in search results on Google and other search engines.



most often. One way to gauge search-term popularity is to use an online keyword tool designed to measure what general terms are searched for most often. Both the Google Keyword Tool (find.pcworld.com/62305) and the SEO Book Keyword Suggestion Tool (find.pcworld.com/62306) can help you get a quick, accurate sense of the search vol-

ume for any term of your choice, and they will recommend related terms that you might not have thought of.

Ultimately it's a numbers game: You need to optimize for terms that drive the highest traffic and are the most relevant to what your site offers. So before you do anything else, carefully select a few relevant high-interest terms for optimizing.

Tweak Titles and URLs

Experts agree that your pages' title tags should be central to your SEO efforts. When indexing content, search engines treat the words in these tags—the text that appears in the title bar in visitors' Web browsers—as the single most important element on a Web page. Load each title tag with keywords, and make every one of them on your site unique. Danny Sullivan suggests thinking of the tags as being like the titles of hundreds of books that you've published and want potential customers to be able to find: "If you give

them all the same title, no one knows they are about different things."

Search engines today consider keywords in your URLs much as they do keywords on the page itself. Though most publishing systems make it easy to use keywords in URLs, many other systems (like WordPress) default to simplistic URLs that use numbers »

Getting your site to the top of search results—and keeping it there—is an ongoing task. For tips on making the most of your SEO efforts, read "Understand Google's Guidelines" at find.pcworld.com/62304.

instead of keywords. Readable URLs don't just help search engines, says Rand Fishkin; they help users, too.

Know How Others Link to You

I love it when readers link to my movie review site, Filmcritic.com, but a link that reads "Filmcritic.com is cool" has far more positive impact on the ranking my site receives in search engines than a link that says merely "movie reviews." Why? Because search engines look at the anchor text used to link to a site.

If you want to rise in the rankings for a certain keyword or phrase, you need to encourage others to use the keywords in the anchor text for their links to your site, instead of using just the site's name. To make that easy, provide the actual HTML code you'd like the linking site to use: Many linkers will copy and paste it rather than bothering to customize it themselves.

Spell Correctly

Your site (especially your keywords) must be free of spelling errors. Typos can be a huge problem for eBay sellers, who can't figure out why no one is bidding on their "Tiffany" bracelets. On the other hand, including the incorrect form of words that are frequently misspelled can work for you. For example, about 5 percent of searchers misspell *absinthe* as "absinth," so it may be wise to include the misspelled version of the word as a secondary keyword.

Don't Let SEO Get in the Way

A final piece of sound advice from Fishkin: "SEO should never have to compete with user experience or usability. What's good for users is almost always good for engines, too, so building the best Web site you can—with the best content, design, and architecture—will go a long way to bringing you success with search engine rankings. Just make sure that whatever you build, search engines have easy access to it, and you'll be miles ahead of the pack."

(For more SEO tips, read our complete article at find.pcworld.com/62307.)

NET WORK RICHARD MOROCHOVE



Create Great Charts Online Without Excel

NUMBERS MAY BE the way that businesses keep score, but present a report laden with rows

and columns of raw data, and your colleagues will soon exhibit what I call MEGO syndrome, as in "My Eyes Glaze Over." I've seen that telltale MEGO look around many a boardroom table, and it ain't pretty. So when I have the misfortune of presenting to a group, I try to make my information understandable with clear, simple graphics.

Of course, we're not all Excel experts, and sometimes the number-crunching features of a full-blown spreadsheet app get in the way when you're simply trying to

create a smart, snappy visual aid for your complex data. With a single-purpose data-visualization tool like LogiXML VizLytics (vizlytics.com), you can skip the math and get down to making pretty pictures.

VizLytics is a free service, currently in beta, that lets you create graphs and share them with colleagues. You can slice and dice data in different ways and then visualize the results to help everyone make better business decisions.

Signing up for a free account is easy. Sample data sets let you put VizLytics through its paces to see what it has to offer. You can make bar and pie charts or a numerical table, and you can customize the layout and hide or display columns.

Unlike Microsoft Excel, VizLytics does not help you create or even organize your raw data. Instead, you import data from an Excel workbook, a Google worksheet, a CSV file, or the Salesforce.com customer relationship management service.

After importing your data, you can create the style of graph you wish. I like the way VizLytics lets you drag and drop different visual styles, such as line and bar charts, to see how they look. If you don't

A simple-to-use Web-based business graphics tool can take the hassle out of creating and sharing smart charts.

want to display all the data in one view, select just the columns you require.

After you're satisfied with the results, you can invite others by e-mail to view the chart and add their comments.

In the future VizLytics will permit data import from other sources, such as

QuickBooks. A paid version of the service, planned for launch later this year, will add support for workgroups.

VizLytics' graphics options may be too simplistic for some users. If a chart isn't working out for your needs, you may be

best off abandoning it and starting over with a different format. You might try a line chart rather than a bar chart, say.

An online service I've looked at previously, EditGrid (find.pcworld.com/62309), provides more spreadsheet-graphics options. EditGrid is a particularly strong choice if you want to display financial data originating from other online services, such as stock-price charts and foreign exchange rates. EditGrid supports mash-ups from sites such as Google Charts, Reuters, and Yahoo Finance.

One of the best ways to prepare better graphics is to understand what works in a chart and what doesn't. A pie chart that doesn't add up to 100 percent, distortions created by unnecessary 3D effects, and cluttered charts that obscure the results are just some of the visual elements that you should avoid in your creations. You might not be a chart-making wizard, but you can still create good graphs that help people understand numerical results. And in times like these, when the bottom line has to come under even greater scrutiny, better data visualization can help lead to better business decisions.



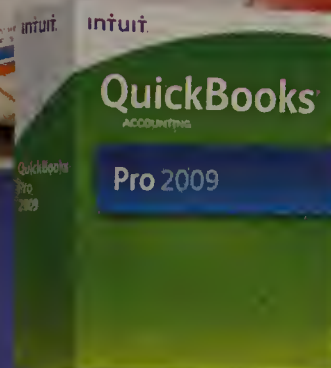


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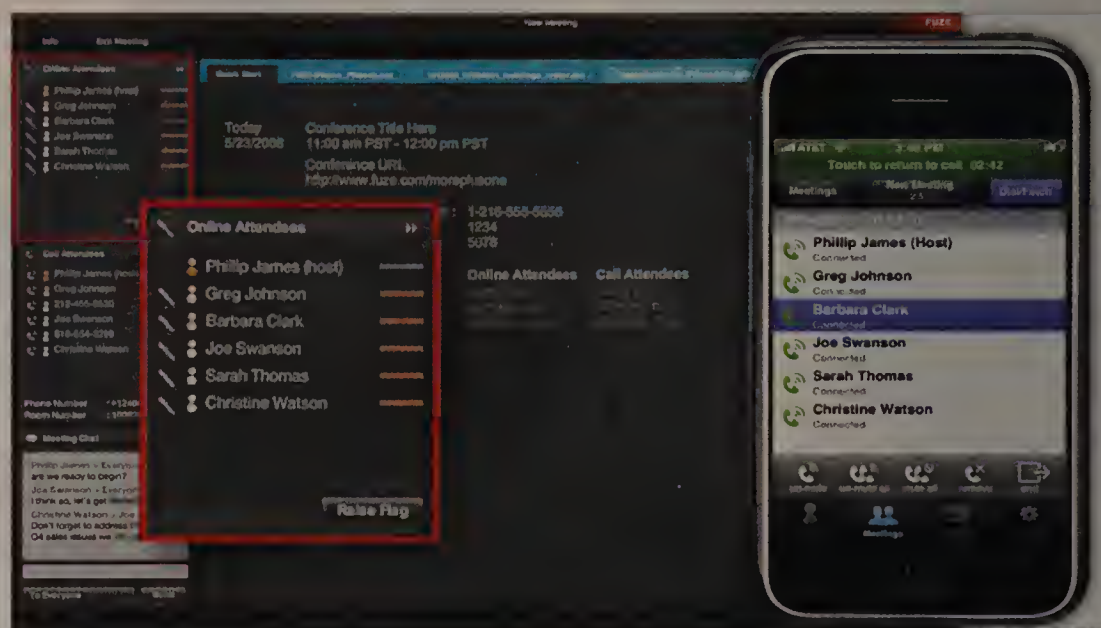
Collaborate Online With the Fuze Meeting Service

YOU'RE PROBABLY ALREADY using online meeting software to bridge the gap separating you, your customers, and telecommuting colleagues. Offerings such as the popular WebEx (webex.com) are out there, but often they come with hassles, requiring, say, a separate voice call or a software installation.

CallWave Fuze (fuzemeeting.com) stands out, especially for businesses that rely on video collaboration. Clients—and even hosts—need only a Flash-enabled Web browser and a Webcam to use it.

Whether you're sharing PowerPoint slides, photos, high-def videos, or other files, the Fuze servers act as a capable intermediary. The playback is smoother than when you use your PC to host, because in self-hosting the limiting factor is your upstream speed. With Fuze, you need only a moderate downstream speed for everyone to stay in sync.

Meeting participants can annotate files or frames of video. Fuze isn't a full-fledged editor, but it does offer sev-



THROUGH THE NEW CallWave Fuze service, you can conduct video and voice meetings that extend to colleagues and clients using PCs, iPhones, and BlackBerry devices.

eral collaboration and marking options. You can draw simple graphics, too.

Initially Fuze was made to run video, and in that respect I saw it work in sync across devices, including an iPhone. (A BlackBerry version is available, with Windows Mobile and others coming.)

But its other features make it a great collaboration environment. It'll even bridge its chat tool across IM platforms.

Following a 14-day free trial period, Fuze runs at \$29 monthly for a single host and unlimited client devices.

—Zack Stern

Accept Credit Card Payments on the Go

TAKING CREDIT CARD payments on the road—whether on a trade-show floor or door-to-door—can be a frustrating experience. Old-fashioned mechanical readers (known as addressographs) are bulky, and generate a mass of paper to contend with at the end of each day. Dedicated electronic card readers, meanwhile, tend to be even bulkier, and frequently those models require both a power source and an Internet connection to function. Such hassles make the Pro-



THE COMPACT PROPAY MicroSecure Card Reader stores up to 71 transactions at a time and fits easily in a shirt pocket.

Pay MicroSecure Card Reader (find.pcworld.com/62340) look pretty inviting.

The MicroSecure Card Reader weighs a scant 1.4 ounces and fits in a shirt pocket. Its internal battery lasts for up to 8 hours of use on a single charge, letting you store up to 71 transactions until you get back to your PC to upload and process them through the service at ProPay.com. Connect the USB-driven reader to your laptop, and you can use it to process live transactions as long as you're connected to the Web.

The ProPay card reader sells for \$150 and requires a \$5 monthly service fee in conjunction with ProPay's fairly standard account charges and transaction-processing fees, which are in line with

the corresponding fees of the major card-processing companies. A basic account with ProPay costs \$35 per year.

Though the card reader performs admirably connected to a laptop, where you can enter transaction details directly into your business's customized ProPay account page, it has no screen or keys of its own. So when you're on the road, you need to keep a receipt book nearby for handing out transaction records and keeping track of the transactions. All the reader records is the card-account data; when you get back to your PC, you must key in the rest of the information for each transaction. But that minor hassle seems like a pretty reasonable trade-off for a tiny reader that offers your customers the assurance that their credit card details are secure when they buy from you.

—Robert Strohmeier ●

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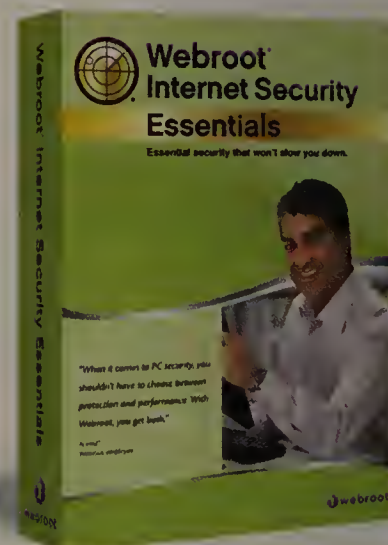
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Security Alert

Will Microsoft Corner the PC Security Market?

BY ROBERT VAMOSI

MICROSOFT PLANS to offer a free antivirus product, code-named "Morro," in the second half of this year, when the

SECURITY SPECIAL REPORT

company removes Windows Live OneCare from the retail market. But cautious consumers may want to keep their current antivirus programs, given Microsoft's dubious track record with antivirus apps.

Back in 1993, in versions 6.0 through 6.22 of its MS-DOS operating system, Microsoft provided a free, no-frills, non-updatable version of Central Point Anti-Virus rebranded as Microsoft Anti-Virus.

Ten years later, Microsoft began buying antispymware and antivirus companies, and in 2005 the first beta of Windows Live OneCare appeared. Issued as a stand-alone security product in May 2006, OneCare included a revamped GeCAD antivirus engine (which Microsoft had acquired in 2003), Microsoft Windows Defender antispymware protection, and the Windows Firewall, plus system diagnostic utilities, backup capabilities, and a home-networking monitor. OneCare felt less like a suite than like a clever repackaging of free tools that were already available; consumers were essentially paying \$50 for antivirus signature file updates.

OneCare did force changes within the antivirus community. McAfee responded in late 2006 with its McAfee Total Protection system, a suite offering home-network monitoring and

an enhanced version of the McAfee Internet Suite. The next year, Symantec introduced Norton 360, a more unified product that added online backup to Norton Internet Security.

Yet in 2007, AV-Comparatives.org's Andreas Clementi wrote that OneCare didn't meet the minimum requirements to participate in his organization's antivirus testing. Hence, "its inclusion in future tests of this year [will] have to be re-evaluated."

Performance has improved. Microsoft hired Vincent Gullotto from McAfee to head Microsoft's Security Research and Response team, and it later added experts from other major anti-virus vendors to its roster. In the latest AV-Comparatives.org On Demand scanning test, Microsoft's OneCare 2.5 scored as well as McAfee's VirusScan Plus 2008 did.

All is not perfect, however. In May 2008, OneCare mistook Skype, a common Voice-over-IP application, for a piece of adware, an embarrassing false positive. Microsoft has not dominated security software as the antivirus community once feared, either: Current estimates put Microsoft's share of the retail desktop security product market at 2 percent.

In its press-release announcement for Morro, Microsoft states: "This new, no-cost offering will give us the ability to protect an even greater number of consumers, especially in markets where the growth of new PC purchases is outpaced only by the growth of malware."

Microsoft says Morro won't have all of OneCare's features—the diagnostic tools, for example, and probably backup. Morro will protect desktops against viruses, spyware, rootkits, >>

The company's decision to provide a free antivirus product may not change the names of the security products on your desktop.



Does the Internet need its own police force? See what the experts think, at find.pcworld.com/62129. Also, find out how to avoid falling victim to social networking malware, at find.pcworld.com/62128.

and Trojan horses, but whether Microsoft will offer it to all users via Windows Update or make it standard in future OSs such as Windows 7 is unknown.

Absence of Malice

Microsoft currently provides a Malicious Software Removal tool with its monthly updates, though most people aren't aware of it. The tool targets specific malware, and has had an impact. In 2008, experts cited Microsoft's quick removal of bots associated with the Storm worm as a major factor in the botnet's declining infection rate. Whether Morro will complement or replace the Malicious Software Removal tool is unclear.

Even if Morro proves to be a first-rate antivirus program, commercial vendors may not suffer. Windows Defender, Microsoft's antispyware program (and originally a repackaged version of Giant AntiSpyware, which Microsoft bought in November 2004), has been available for download since 2005 and ships with most versions of Windows sold today. Windows Defender is one of the few major antispyware apps still available, but not because Microsoft cornered the market. Instead, antivirus companies bought up the other solo players.

The built-in Windows Firewall (formerly Internet Connection Firewall) is another free Microsoft tool. Though it's better than nothing, it blocks only incoming Internet traffic. Vista's firewall can block outbound traffic, too, but this feature is switched off by default. (To learn how to turn it on and make other security tweaks in Vista, see page 94.) Many people find the free, two-way firewalls from Comodo and ZoneAlarm easier to use and more effective.

Neither Windows Defender nor Windows Firewall has displaced commercial packages. Is a free antivirus product from Microsoft likely to fare differently? For the past eight years, antivirus vendors have coexisted with the free version of AVG. If Microsoft's product simply prompts other companies to offer free versions of their antivirus software, that might not be a bad thing.

BUGS & FIXES

STUART J. JOHNSTON



Zap Zero-Day IE Attack Before It Zaps You

I FEEL SOME nostalgia as I write this column because, after penning *Bugs & Fixes*

for eight and a half years—102 columns total—it's time for me to sign off. I've immensely enjoyed writing for you through all those years, and I'm grateful that *PC World* gave me the opportunity to do so.

Besides helping you ward off current threats, I have tried to describe how security holes and attacks on them work, so you'll be better prepared to deal with future problems. Now, as my dad back in Montana used to say: "nuff said."

The bugs keep marching along, though, and this month is no exception.

Despite recently patching more bugs—including 23 critical vulnerabilities—than it has at any other single time in the past five years, Microsoft got blindsided by a previously unknown bug present in all supported versions of Internet Explorer (including IE 8 Beta 2).

That bug quickly spawned a wave of zero-day attacks online, as bad guys struck via the Web before Microsoft had devised any patch or workaround for it.

The bug affects a key function known as "data binding" that IE relies on in dealing with a Web language called XML; the hole involves a failure to free memory properly when it's no longer needed.

A malicious program could exploit the bug by loading its own code into the surplus memory in order to take over your PC. If you'd visited a booby-trapped site or clicked on a poisoned link in an e-mail, not even having your IE security levels

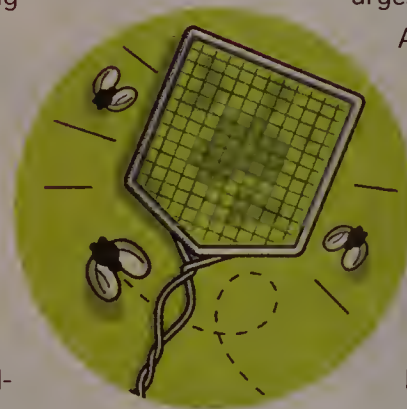
Plus: Snag a pile of new patches for a cascade of Microsoft software glitches.

set to maximum would have stopped it.

Microsoft's developers rushed out an out-of-cycle fix to plug the hole, rather than waiting for the next "Patch Tuesday." But the company's heroic effort took a week, and meanwhile the attacks spread.

Since it needed to get the patch out pronto, Microsoft didn't offer the IE fix as a cumulative update, another indication of how dangerous it considered this bug.

Attacks have occurred, so Microsoft urges you to download the patch ASAP (if you don't use automatic updates); get it at find.pcworld.com/62120.



23 Skiddoo

What about the other 23 critical bugs? Before the zero-day attacks hit, Microsoft released a cumulative patch for IE to fix four critical

holes in IE versions 5.01 (on Windows 2000 SP4) up through IE7 (on Vista SP1).

Several of the weaknesses are technically similar to the zero-day attack hole. But unlike the data-binding flaw, none of the 23 vulnerabilities have been attacked yet. Just be sure to keep your updates up-to-date. See find.pcworld.com/62119 for further information and a link to the patches.

Microsoft also corrected two vulnerabilities in Windows' graphics device interface, which allows programs to show text and graphics in the Windows Metafile format (see find.pcworld.com/62123 for details and a link to the fix); two holes in Windows Search for Windows Vista that leave you susceptible to a rigged search file (see find.pcworld.com/62121); and a slew of bugs in Office, including a critical one affecting Word 2007 (consult find.pcworld.com/62122 for a discussion and patches).

That's it for me. I hope to see you all again sometime, farther down the information superhighway.

BUGGED?

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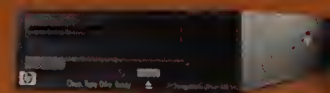
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Browser Bug Could Allow Phishing Without E-Mail

IN A TRADITIONAL phishing attack, a scammer sends out millions of phony e-mail messages disguised to look as if they come from legitimate companies. But researchers at security vendor Trusteer say that “in-session phishing,” a new type of attack, could help criminals steal online banking credentials by replacing the e-mail message with a pop-up browser window. Scammers might hack into a legitimate Web site to plant HTML code that looks like a pop-up security alert asking the victim to enter log-in information and to an-

swer other security questions that banks use to verify a customer's identity.

For attackers, the hard part would be to convince victims that the pop-up notice is legitimate. But because of a bug lurking in the JavaScript engines of all of the most widely used browsers, there is a way to make this type of attack seem more believable, says Amit Klein, Trusteer's chief technology officer.

By studying how browsers use JavaScript, Klein says, he found a way to determine whether someone is logged in to a Web site, provided that they use

a certain JavaScript function. Klein has notified browser makers and expects the bug will eventually get patched.

Until then, criminals who find the flaw may be able to write code that checks whether Web surfers are logged in to, say, a predetermined list of major banking sites. “Instead of just popping up this random phishing message, an attacker can get more sophisticated by probing and finding out whether the user is currently logged in to one of 100 financial institution Web sites,” Klein says.

—Robert McMillan

PRIVACY WATCH ERIK LARKIN



Extortion Manhunt Highlights Need for Privacy Controls



WHY DO WE need overarching privacy and security rules governing how companies deal with our most sensitive data? Consider the case of the ongoing million-dollar manhunt for extortionists who threatened to display millions of stolen health records—complete with prescription information—online.

The continuing investigation, backed by an offer of a \$1 million reward for information leading to the arrest and conviction of the crooks, stems from an event made public in November. Express Scripts, a large company that manages prescription-drug benefits, reported that both it and its clients had received letters threatening to reveal personal information about customers—Social Security numbers, addresses, dates of birth, prescription information, and more—if certain extortion demands were not met (for additional information, see find.pcworld.com/62171).

Neither the FBI, which is continuing to investigate the matter, nor Express Scripts has released many details, but Stephen Littlejohn, Express Scripts' vice president of public affairs, says that the nature of the sample records the extortionists offered in their letters “correlates to data” held in the company's database. Littlejohn acknowledges that Express Scripts doesn't know how the criminals obtained the customer records, including whether the data heist was an inside job or an external break-in, nor is it clear whether the thief or thieves actually have the millions of records they claim to have stolen. Littlejohn reports that the company subsequently instituted “enhanced controls” on its systems.

Threatened exposure of millions of personal records reveals flaws in our current system.

A few years back, an FBI agent told me that computer crime hadn't yet had its “Enron moment”; she meant that there hadn't yet been an attention-grabbing crime splashy enough to prompt real action by lawmakers and regulators in response to digital privacy and security threats. Since the Express Scripts case deals with sensitive health records and privacy that, once violated, can't be recovered, it may become that Enron moment.

For the potential victims' sake, I hope that the extortionists don't follow through on their threat. But if they do, maybe the ensuing political firestorm will result in strong, sane national laws and regulations over personal information. Rules proposed by the Center for Democracy and Technology call for transparency (so that each of us knows which companies hold what data of ours) and choice (so that we can opt out of allowing a given company to hold it).

Standardizing Data-Breach Laws

Because privacy protections alone won't ensure that companies protect our data adequately, we also need to standardize data-breach laws—which don't exist in all states—so that companies must promptly report stolen or lost data, and thus have a strong incentive to adopt appropriate security measures.

Storing and transmitting records in digital format can yield huge cost savings and may promote health safety, since quick access to drug data can help prevent dangerous prescription conflicts. But the Express Scripts debacle should serve as a wake-up call that we need to get serious about how our personal data is handled. ●

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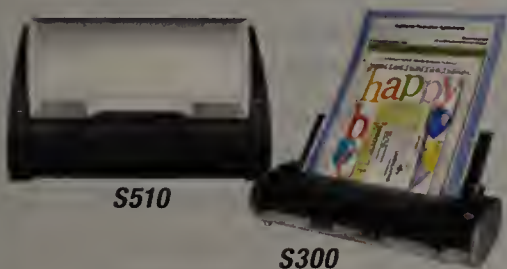


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Reviews & Rankings



Portable Data Defenders Keep Your Files Safe

BY NOW, THE horror stories about missing external hard drives holding sensitive information have lost their edge. Whenever I hear that another 20,000 customers of

In the war against lost or stolen information, encrypted drives are the special forces.

for businesses, universities, and government agencies to lose so much. But it's also understandable: Until recently, encrypting data on a hard drive was a cumbersome process.

Now, external hard drives can take care of the encryption for you. They obviate sophisticated software, and assume the heavy lifting from the PC. Hardware-encrypted drives offer a performance boost over encryption that relies on software running on

Windows. Whereas software asks the PC's CPU to do the number-crunching, encrypted drives use special processors, built into their housing, that scramble data as it's written to disk. Seagate's Maxtor BlackArmor puts the chip on the hard drive's circuitry, in what's called full-disk encryption. (Full-disk-encryption drives are popular in corporate laptops, but are just now becoming widely available as external units.)

Either way, the drive's per-

TESTED ENCRYPTED HARD drives, from left: the Data Locker Pro AES Edition, Lenovo's ThinkPad USB Secure Hard Drive, Seagate's Maxtor BlackArmor, and Apricorn's Aegis Bio.

formance is barely affected, such that (lacking benchmark testing) the effect is hardly noticeable in use.

Encryption is also far simpler with these devices: Once you set one up and you enter a PIN or password, you can copy data to the drive normally, through Windows Explorer or by saving a file to the disk within

SECURITY SPECIAL REPORT

some company are at risk of identity theft, I just roll my eyes. Yes, it's irresponsible

MORE ONLINE

For additional reviews of hard drives and network-attached storage devices, browse to find. pcworld.com/62308.



48 DELL 3130CN



51 HP MINI 2140



56 NOKIA BH-804



58 COWON O2

an application. Some of the devices I tried permit you to enter the passcode by means of physical buttons or keys located on the exterior of the drive housing, while others require you to enter a password into a small Windows app that launches when you connect the drive. If you plan to use your device on one or more non-Windows operating systems, consider the Data Locker and Lenovo models, which each offer a physical keypad.

As with all encrypted drives, the data on the platters (or, in the case of flash drives, on the memory chip) is unreadable to anyone—short of cryptanalysts who work for certain three-letter government agencies—who lacks the password or the physical key. Even if someone tries removing the platters (or memory chips) from the housing and scanning them with forensic data-recovery tools, the recorded bits will appear to be random garbage data, unlockable only with the right key.

Most encrypted drives use one of several standard, well-known algorithms. The most common is AES (Advanced Encryption Standard),

which several branches of the federal government and the military use. FIPS 140 is a very general government encryption standard that ensures that products follow certain security protocols. Level 1, the lowest of four levels, basically means “no glaring errors or omissions were present.” Anything that uses AES-128 or -256 is FIPS 140-2 Level 1 compliant. Less common are drives that use the older DES (Digital Encryption Standard), or its cousin, Triple-DES—both are significantly weaker algorithms, though they’re effective if you’re simply trying to prevent casual snooping.

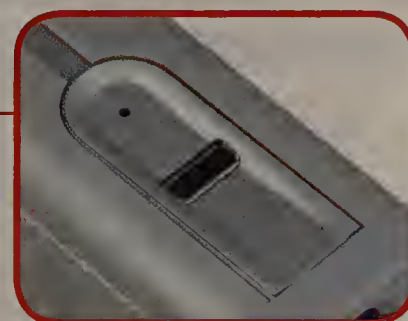
I evaluated eight models, including hard drives and flash drives. My pick for Best Buy is the Seagate Maxtor BlackArmor. Regardless of which model you choose, if you inadvertently leave the drive holding all the nuclear secrets behind on the train, you can be confident that the schmo who finds it won’t be able to retrieve them. That is, of course, assuming you haven’t attached the password to the drive on a sticky note, or left the decryption key plugged into the back. These devices can



eliminate a lot of security worries, but they can’t prevent careless behavior.

Seagate Maxtor BlackArmor

The Seagate Maxtor BlackArmor (\$135 for 320GB) is a marvel of simplicity. It’s the first external model with full-disk encryption—the encryption chip resides on the hard drive’s circuitry. According to Seagate, all of the data is encrypted on the drive, so even if someone removes the drive from the housing and takes away the chip set, the data is inaccessible. When you first attach the BlackArmor to a Windows PC, the drive loads a read-



THE LACIE D2 Safe sports a fingerprint reader plus software that works on PCs and Macs.

only partition with the setup software. Initializing the drive and setting a password takes only a minute, after which the drive loads the encrypted partition and Windows shows it as a drive letter. Thereafter, every time you plug in the drive, the autorun settings will ask you to enter the password.

The BlackArmor also features a Secure Erase option (which overwrites data areas of the drive with zeroes), as well as a backup utility.

This model is our Best Buy for its value—it offers one of the best cost-per-gigabyte rates we’ve seen—as well as for its simplicity and its full-disk-encryption security.

Apricorn Aegis Bio

The Apricorn Aegis Bio (\$300 for 500GB) not only has hardware encryption >>

but also is one of the few drives with a built-in biometric fingerprint reader. The reader lets you bypass creating a password for accessing the drive; instead, you register your fingerprint and then swipe your finger across the reader. Using such a drive is a lot easier, since you have no password to memorize (or forget,

which would render the data useless). Apricorn takes the biometric security up a notch, too: The bundled software (licensed from reader-manufacturer Upek) lets you scan your fingerprint to log in to Windows. Another tool automatically enters saved passwords (and other data) into forms when you swipe your finger. All of

that added functionality makes the Aegis Bio one of the handiest hardware security tools I've encountered.

LaCie d2 Safe

The hefty LaCie d2 Safe (\$350 for 1TB) external drive features a fingerprint reader and can connect to your computer over FireWire 400 and 800 in addi-

tion to USB 2.0. I found LaCie's software setup more time-consuming than some others, but it has an obvious benefit: LaCie's built-in fingerprint software allows you to plug the drive into either a Mac OS system or a Windows box and to work in the encrypted partition. The drive also features the sturdiest housing I've seen, plus a Kensington lock port so you can secure it to a desk.

Apricorn Aegis Vault

Take the Aegis Bio and remove its fingerprint reader, and you have the Aegis Vault (\$260 for 500GB). The two models are virtually identical, but in this case you must submit a password to



APRICORN'S AEGIS VAULT has a convenient built-in USB cable.

unlock the drive. In many respects the Aegis Vault is a decent, slightly pricier duplicate of the BlackArmor and its basic features, but with a built-in USB cable.

Sandisk Cruzer Contour

The Cruzer Contour (\$100 for 16GB) isn't so much a security tool as it is a speedy flash-memory thumb drive with a nifty mechanism to retract the USB connector: The piece recesses inside ➤

PC WORLD TOP ENCRYPTED HARD DRIVES

MODEL	PCW Rating	Features and specifications	Notable features
1 BEST BUY Seagate Maxtor BlackArmor \$135 find.pcworld.com/62130	93 SUPERIOR	• 320GB; AES-128 encryption • 2.5-inch USB 2.0-powered drive • Cost per gigabyte: \$0.42	• Setup software preinstalled • Locks upon disconnect • "Secure Erase" feature built in • Requires Windows
BOTTOM LINE: The BlackArmor is tops for its intuitive out-of-the-box experience, good utilities bundle, and reasonable price.			
2 Apricorn Aegis Bio \$300 find.pcworld.com/62131	89 VERY GOOD	• 500GB; AES-128 encryption • 2.5-inch USB 2.0-powered drive • Cost per gigabyte: \$0.60	• Embedded fingerprint reader for log-in, password management • Drive ships unformatted • Requires Windows
BOTTOM LINE: The Aegis Bio has a fingerprint scanner and software that secures both the drive and the contents of your PC.			
3 LaCie d2 Safe \$350 find.pcworld.com/62132	89 VERY GOOD	• 1TB; AES-128 encryption • 3.5-inch externally powered drive • USB 2.0, FireWire 400 and 800 • Cost per gigabyte: \$0.35	• Solid, rugged cast-aluminum drive housing • Fingerprint reader built in • Works with multiple operating systems
BOTTOM LINE: The solid, relatively inexpensive d2 Safe is one of the few drives suitable for both Macs and PCs.			
4 Apricorn Aegis Vault \$260 find.pcworld.com/62133	87 VERY GOOD	• 500GB; AES-128 encryption • 2.5-inch USB 2.0-powered drive • Cost per gigabyte: \$0.52	• Cannot mount drive without installing software first • Simple password-entry mechanism • Requires Windows
BOTTOM LINE: Apricorn's slightly more expensive alternative to the BlackArmor sports a built-in USB cable.			
5 Sandisk Cruzer Contour \$100 find.pcworld.com/62135	87 VERY GOOD	• 16GB flash memory drive • Drive "locked" via U3 menus • USB 2.0, U3 • Cost per gigabyte: \$6.25	• U3 software preinstalled • Rugged stainless-steel design • Least-expensive flash option • Requires Windows
BOTTOM LINE: This U3 drive can take a licking and still maintain your data, but it lacks high-end encryption.			
6 Data Locker Pro AES Edition \$340 find.pcworld.com/62136	86 VERY GOOD	• 320GB; AES-128 encryption • 2.5-inch USB 2.0-powered drive • Cost per gigabyte: \$1.06	• Embedded LCD touch screen for entering passcode and toggling encryption • Works with multiple operating systems
BOTTOM LINE: The touch-screen controls on this drive look like a gimmick, but they make common tasks far easier.			
7 Lenovo ThinkPad USB Secure Hard Drive \$220 find.pcworld.com/62134	85 VERY GOOD	• 320GB; AES-128 encryption • 2.5-inch USB 2.0-powered drive • Cost per gigabyte: \$0.69	• 6- to 16-character password • Attached, embedded USB cable • Second USB cable required for power • Works with multiple operating systems
BOTTOM LINE: Lenovo's cool, capable data-sharing device will appeal to business users and techies alike.			
8 Kingston DataTraveler Vault—Privacy Edition \$173 find.pcworld.com/62137	84 VERY GOOD	• 4GB flash memory drive • AES-256 encryption • USB 2.0 • Cost per gigabyte: \$43.25	• Setup software preinstalled • Locks upon disconnect • Mounts encrypted drive to second partition • Requires Windows
BOTTOM LINE: Kingston's model provides ultimate data protection in a portable flash drive, but for a steep price.			

CHART NOTE: Prices and ratings are as of 12/30/08.

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a sliding cover that you can manipulate with just your thumb. Inside, it's a high-performance U3 drive with all the benefits: the ability to run programs from the drive itself, a feature that stores your documents on the drive automatically, and the U3 Launchpad, a clone of the Start menu for the drive's installed applications.

In the Launchpad menu is the check box to "lock" the AES-encrypted user-writable portion of the drive with a password. While the protection isn't enabled by default, it can put a password between anyone who finds your lost drive and your files. As long as the NSA isn't after your data, this setup will probably provide enough security for casual use.

Data Locker Pro AES Edition

If you want to use a drive on several computers with different OSs, you need a way to enter a password through



KINGSTON'S DATATRAVELER VAULT—Privacy Edition (left) uses a 256-bit AES encryption key for greater protection, while Sandisk's Cruzer Contour offers some security through its U3 software menu settings.

something other than Windows software. That's where the Data Locker Pro AES (\$340 for 320GB) and its touch-screen LCD come in: The Data Locker gives you a numeric keypad for entering a six-digit passcode that lets the drive mount in an operating system. You can also use the LCD screen to change the passcode, dismount the drive, toggle the encryption on or off, or wipe the drive clean. One annoyance, however, is the loud beeping that it emits when you press the screen (and you can't turn the sound off).

The Data Locker's relatively high price factors in the cost of the additional hardware, but the touch screen

is definitely slick, and this drive is worth considering if you need to move sensitive data between machines.

Lenovo ThinkPad USB Secure Hard Drive

In the same vein as the Data Locker, Lenovo's crypto-drive (\$220 for 320GB) takes advantage of a numeric keypad on the drive housing. Interestingly, this drive's housing more closely resembles a burglar-alarm panel. Pressing and holding numerical combinations allows you to change the password or modify other settings, without having to run software. This model produces no sound when you press a key, which is better than the

obnoxiously loud Data Locker—but unlike that competing product, it offers no visual feedback that you have pressed a key, either.

The drive demands a lot of power to do its thing, so the box includes a second cable that you're supposed to plug into a second, free USB port and then feed into the drive's power port.

Kingston DataTraveler Vault—Privacy Edition

Kingston's DataTraveler Vault—Privacy Edition (\$173 for 4GB) is a good but pricey option for anyone who needs an encrypted drive small enough to wear around the neck. A blue, metallic tube with a cap on one end, it's among the bulkier USB models we've seen. But what's inside is what counts: This drive's embedded encryption engine scrambles data with a 256-bit AES encryption key—a key that's twice as long as what other products offer. The longer key means thieves must take that much more time to try to crack the encryption.

Like the BlackArmor drive, the DataTraveler opens its utilities in a read-only partition that Windows interprets as a CD-ROM drive. Once you have created your password, the drive mounts the encrypted partition.

—Andrew Brandt

ENCRYPTED ALTERNATIVES

Other Ways to Protect Your Data

WE'VE REFERRED TO the devices in this story as encrypted hard drives, but a more appropriate nomenclature might be "encrypted portable storage devices," because, except for the Seagate Maxtor BlackArmor, the encryption happens on the external housing, not on the drive's controller board. In most cases the drives inside aren't any different from the drives in non-encrypted products (and, as a result, are essentially interchangeable). The drive housing holds additional hardware and firmware, as well as processors made to handle crypto operations.

Several manufacturers sell bare housing, into which you can install your own drive. Companies like Addonics Technologies (www.addonics.com), Enova Technology (www.enovatech.net),

and RadTech (www.radtech.us) make "kit" housings for either 2.5-inch or 3.5-inch hard drives. The housings offer 128-bit or 256-bit AES hardware encryption with USB 2.0; some also have FireWire 400 or 800, or eSATA connectivity.

Hitachi has recently joined Seagate in manufacturing hard drives that have both the encryption technology and the encryption key built right into the drive, which helps solve the problem of sensitive data remaining on disposed drives. Without the encryption chip and your password, key, or code, no one can get anything off the drive. To dispose of your drive, you simply delete the key. Once the key is gone, the encrypted data becomes unrecoverable, and you can format the drive normally for reuse.

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DELL'S LATEST CROP of color lasers shake up our rankings.

PCW Test Center

The company's big, very fast 3130cn debuts at the top of the chart. It posted the fastest graphics speed to date, and one of the best text speeds. Add its great output quality and economical toner, and you have a winner for small to medium-size workgroups. A sibling, the smaller 2130cn, premieres in third place; it's fast, but its toner is expensive. HP's Color LaserJet CP2025n follows in the fifth spot with a reasonable price and very



THE DELL 3130CN offers fast print speeds and great quality.

nice print quality. Lexmark's new C543dn offers standard automatic duplexing and is \$100 less than the HP.

Another record-breaking Dell is the 1230c—the smallest and least expensive model we tested this month. Unfortunately, its subpar print quality and pricey toner kept this Dell off the chart.

—Melissa Riofrio

MORE ONLINE

For in-depth reviews of all the printers in this chart, and for information on how we test, go to find.pcworld.com/62318.

PC WORLD TOP 10 COLOR LASER PRINTERS

MODEL	PCW Rating	Performance	Features and specifications ¹
1 BEST BUY Dell 3130cn Color Laser \$549 NEW find.pcworld.com/61971	84 VERY GOOD	- Text quality: Superior - Graphics/photo quality: Very Good/Superior - Tested speeds (ppm): 25.3 text/5.7 graphics	31 ppm text 26 ppm graphics 600-by-600-dpi maximum resolution
BOTTOM LINE: This printer's speed and great quality will please workgroups, while its cheap toner will make the boss happy.			
2 Brother HL-4040CN \$349 find.pcworld.com/57915	84 VERY GOOD	- Text quality: Superior - Graphics/photo quality: Good/Fair - Tested speeds (ppm): 19.3 text/4.2 graphics	21 ppm text 21 ppm graphics 2400-by-600-dpi maximum resolution
BOTTOM LINE: This competent printer balances good pricing, speed, and print quality, but has a sometimes-awkward design.			
3 Dell 2130cn Color Laser \$349 NEW find.pcworld.com/61881	82 VERY GOOD	- Text quality: Superior - Graphics/photo quality: Very Good/Superior - Tested speeds (ppm): 16.5 text/4.9 graphics	20 ppm text 16 ppm graphics 600-by-600-dpi maximum resolution
BOTTOM LINE: Small workgroups will like this capable color laser; users must open their wallets when replacing toner, though.			
4 Dell 1320c Color Laser \$299 NEW find.pcworld.com/57973	81 VERY GOOD	- Text quality: Very Good - Graphics/photo quality: Superior/Very Good - Tested speeds (ppm): 12.4 text/4.2 graphics	16 ppm text 12 ppm graphics 600-by-600-dpi maximum resolution
BOTTOM LINE: A low price and great-looking photo quality help this model stand out, but its toner cartridges are expensive.			
5 HP Color LaserJet CP2025n \$499 NEW find.pcworld.com/61877	81 VERY GOOD	- Text quality: Superior - Graphics/photo quality: Superior/Superior - Tested speeds (ppm): 17.5 text/4.2 graphics	21 ppm text 21 ppm graphics 600-by-600-dpi maximum resolution
BOTTOM LINE: For the price, you get solid overall performance—albeit in a somewhat less solid-feeling package.			
6 Konica Minolta Magicolor 2530DL \$399 find.pcworld.com/56555	79 GOOD	- Text quality: Very Good - Graphics/photo quality: Good/Fair - Tested speeds (ppm): 17.3 text/2.6 graphics	20 ppm text 5 ppm graphics 2400-by-600-dpi maximum resolution
BOTTOM LINE: The compact 2530DL can print directly from a digital camera and offers competitive costs per page.			
7 Konica Minolta Magicolor 4650EN \$599 find.pcworld.com/61205	79 GOOD	- Text quality: Superior - Graphics/photo quality: Very Good/Good - Tested speeds (ppm): 23.1 text/3.9 graphics	25 ppm text 25 ppm graphics 9600-by-600-dpi maximum resolution
BOTTOM LINE: The Magicolor 4650EN color laser is a decent performer; it's also both well priced and well made.			
8 Lexmark C543dn \$399 NEW find.pcworld.com/61876	78 GOOD	- Text quality: Superior - Graphics/photo quality: Very Good/Good - Tested speeds (ppm): 19.8 text/2.8 graphics	21 ppm text 21 ppm graphics 1200-by-1200-dpi maximum resolution
BOTTOM LINE: This low-cost laser's standard duplexing is a bonus, but its graphics capabilities are limited.			
9 Xerox Phaser 6180/N \$399 find.pcworld.com/56551	78 GOOD	- Text quality: Very Good - Graphics/photo quality: Fair/Fair - Tested speeds (ppm): 23.7 text/1.9 graphics	26 ppm text 20 ppm graphics 600-by-600-dpi maximum resolution
BOTTOM LINE: The Phaser 6180/N prints high-quality text at decent speeds; it finds color images more of a challenge.			
10 Oki Printing Solutions C5800Ldn \$799 find.pcworld.com/52626	78 GOOD	- Text quality: Superior - Graphics/photo quality: Good/Fair - Tested speeds (ppm): 26.3 text/5.5 graphics	28 ppm text 24 ppm graphics 1200-by-600-dpi maximum resolution
BOTTOM LINE: GDI-based printer has a built-in duplexer and offers the fastest text performance on our chart.			

CHART NOTE: Prices are as of 12/16/08; ratings are as of 12/23/08. Printer speeds are in pages per minute (ppm).

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Sony's High-Priced, High-Powered Laptop

PCW Test Center SONY'S VAIO VGN-Z598U starts at \$1499— but our fully loaded test unit costs \$4450, thanks mainly to a pair of 128GB solid-state drives. This unit also crams a 2.53-GHz Intel Core 2 Duo P9500 CPU, 4GB of RAM, and a dedicated



VAIO VGN-Z598U | Sony
Powerful multimedia business machine has lots of expensive options.
List: \$4450
find.pcworld.com/62161

nVidia GeForce 9300M GS GPU into its small (12.4 by 1.3 by 8.3 inches) frame.

Its WorldBench 6 score of 107 is the highest we've seen from an ultraportable, yet it weighs only 3.3 pounds.

The VGN-Z598U's beautifully backlit 13.1-inch wide-screen display is crisp and clear, even in direct sunlight. (Consider springing for the optional Blu-ray drive.)

The unit's keyboard design creates good key spacing between buttons and promotes solid tactile feedback. The mouse is large and sensitive; its two slim buttons

THE SONY VAIO VGN-Z598U is an impressive ultraportable, but it can cost up to \$4450.

(with a fingerprint scanner between them) are like landing strips for gnats, but they're firm.

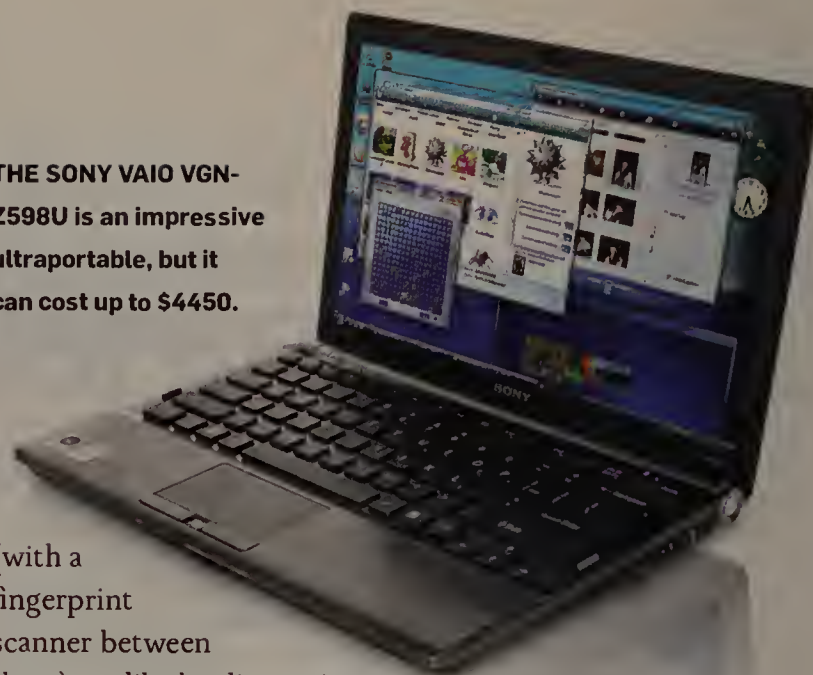
The laptop includes two USB 2.0 ports, a four-pin FireWire jack, a PC Express card slot, and an HDMI output (the base unit has a modest VGA port). Like most ultraportables, the VGN-Z598U has a rather puny audio system: two tiny, tinny

speakers (and no subwoofer).

The preloaded software includes Microsoft Works and a couple of basic video editing and exporting programs.

If you opt for a platter-based hard drive in place of the dual SSDs, you can trim \$2000 off the top-end price.

—Darren Gladstone



PHOTOGRAPH: ROBERT CARDIN

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The upgraded **R-Undelete** is an inexpensive, easy-to-use and powerful file undelete solution for FAT and NTFS file systems. **R-Undelete** Version 4.0 now features file recovery from damaged and/or deleted disk partitions. An improved wizard-style interface makes it easy for even inexperienced users to recover data.

For those who need the mission-critical capability to completely restore their systems after a major crash, **R-Drive Image** allows users to quickly create a compressed disk image of a hard drive and easily back up images in various removable media such as CD-R(W), Iomega Zip or Jazz disks. **R-Drive Image** also saves time and expense by allowing you to set up one system manually, then create an image of that system for deploying the identical system on multiple computers.

Ease of use is also a highlight of **R-Crypto**, the R-Tools data encryption system utility that protects a user's confidential information and personal data against unauthorized access, whether on a desktop, notebook or removable data storage device. **R-Crypto** encrypts and decrypts data in real time and is fully transparent to the user. R-Tools also offers **R-Wipe&Clean**, which automatically keeps applications free and clear of harmful clutter.

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HP's New, Improved— and Pricy—Netbook

**PCW Test
Center**

HP'S MINI 2140 is a grown-up version of the Mini 1000, and it's pricey for a netbook. In its stripped-down, \$499 form, it comes with Intel's 1.6-GHz Atom processor, 1GB of RAM, a 160GB hard drive (spinning at 5400 rpm), a



Mini 2140 | HP

A better Mini, but it with the same awkward mouse-button positioning.

List: \$529

find.pcworld.com/62164

three-cell battery, and Windows XP. An extra \$30 gets you a six-cell battery (as in the unit we tested). And \$629 buys a three-cell unit with 2GB of memory and a 7200-rpm, 160GB hard drive.

Unfortunately, issues with Photoshop yielded a score of 26 in WorldBench 6. The only other netbook that has scored as low is the equally pokey Dell Inspiron Mini 9. But the 2140 deserves some extra credit for lasting almost 7 hours on one charge.

Its keyboard is fairly large (only about 10 percent smaller than a regular laptop's).



HP'S MINI 2140 is a grown-up netbook—with a grown-up price.

The right and left mouse buttons flank the mousing surface instead of sitting below it, making navigating and editing documents harder.

The Mini's 10.1-inch backlit LED display stands out, with a native resolution of 1024 by 576 pixels.

With the three-cell battery in place, the unit weighs 2.6

pounds but remains svelte, at 1.05 by 10.3 by 6.5 inches.

The speakers sound a bit tinny but can fill an office or hotel room. The machine has an SDHC flash card reader, VGA-out, an ethernet jack, and two USB ports.

Still, the top price is close to an all-purpose laptop's.

—Darren Gladstone

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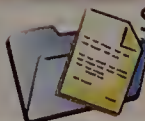
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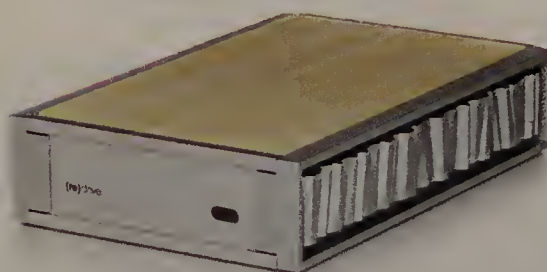
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Backup Rules Among External Hard Drives

A PRICE DROP helps propel

PCW Test Center

CMS Products' speedy 1TB Velocity2 Series Backup System to the top of our chart. This unit couples CMS's Bounce-Back Professional software with a 1-terabyte, 3.5-inch hard drive. You restore data as needed; if your system fails, you can remove the hard drive from the CMS unit, put this drive into your desktop, and be up and computing again in no time. Hammer Storage's Morespace slips onto the chart this month. Its performance is sluggish, but it offers an undeniable value: The unit



SIMPLETECH'S ReDrive comes with a bamboo top panel.

carries the lowest cost-per-gigabyte—just \$0.12—of any drive on the chart.

Meanwhile, SimpleTech's ReDrive (pictured above) proves that green can be competitive. Its performance is even more sluggish than the Hammer drive's, but its Western Digital green drive and its fanless design help keep power consumption down.

—Melissa J. Perenson

MORE ONLINE

For additional testing data and specifications on the drives featured here, visit find.pcworld.com/62328.

PC WORLD TOP 10 EXTERNAL HARD DRIVES

MODEL	PCW Rating	Performance	Features and specifications ¹
1 BEST BUY CMS Products 1TB Velocity2 Series Backup System \$181 find.pcworld.com/62152	85 VERY GOOD	- Overall performance: Superior - Copy files: 71 seconds - File search: 100 seconds	1000GB 7200 rpm - eSATA-300, USB 2.0 - Cost per gigabyte: \$0.18
BOTTOM LINE: This top-flight performer provides a software/hardware combination for creating a bootable backup drive.			
2 SimpleTech Duo Pro Drive \$280 find.pcworld.com/62155	82 VERY GOOD	- Overall performance: Superior - Copy files: 69 seconds - File search: 112 seconds	1000GB 7200 rpm - eSATA-300, USB 2.0 - Cost per gigabyte: \$0.28
BOTTOM LINE: Terrific design, speedy performance, and versatile backup software make this drive a strong contender.			
3 Apricorn EZ Bus Desktop SATA \$129 find.pcworld.com/57139	82 VERY GOOD	- Overall performance: Superior - Copy files: 76 seconds - File search: 105 seconds	500GB 7200 rpm - eSATA-300, USB 2.0 - Cost per gigabyte: \$0.26
BOTTOM LINE: This fast, inexpensive drive comes with three basic backup, file-copy, and encryption utilities.			
4 LaCie d2 Quadra \$170 find.pcworld.com/57127	80 VERY GOOD	- Overall performance: Superior - Copy files: 87 seconds - File search: 108 seconds	500GB 7200 rpm - eSATA-150, USB 2.0, FireWire - Cost per gigabyte: \$0.34
BOTTOM LINE: For a slight price premium, you get the flexibility of USB, eSATA, and FireWire 400 and 800 data interfaces.			
5 Western Digital My Book Home Edition \$210 find.pcworld.com/62156	79 GOOD	- Overall performance: Very Good - Copy files: 83 seconds - File search: 118 seconds	1000GB 7200 rpm - eSATA-300, USB 2.0, FireWire - Cost per gigabyte: \$0.21
BOTTOM LINE: Reasonably priced for a single 1TB drive, this model lacks the performance oomph of some of its competitors.			
6 WiebeTech ToughTech FS \$206 find.pcworld.com/62157	74 VERY GOOD	- Overall performance: Very Good - Copy files: 85 seconds - File search: 104 seconds	500GB 7200 rpm - eSATA-300, USB 2.0, FireWire - Cost per gigabyte: \$0.41
BOTTOM LINE: This fast drive has a sleek, accessible (via tools) chassis, but it comes without bundled software.			
7 SimpleTech ReDrive \$140 find.pcworld.com/62158	71 GOOD	- Overall performance: Poor - Copy files: 146 seconds - File search: 107 seconds	500GB 5400 rpm - USB 2.0 - Cost per gigabyte: \$0.28
BOTTOM LINE: Elegant, original, and ecologically friendly design inside and out highlights this external hard drive.			
8 Seagate Maxtor One-Touch IV Plus \$149 find.pcworld.com/62159	70 GOOD	- Overall performance: Poor - Copy files: 135 seconds - File search: 107 seconds	500GB 7200 rpm - USB 2.0, FireWire 400 - Cost per gigabyte: \$0.30
BOTTOM LINE: Seagate's slow performer lacks an eSATA interface; integrated backup software makes one-touch backups easy.			
9 CMS Products 1.5TB Velocity2 Series Redundant Backup System \$701 find.pcworld.com/57120	70 GOOD	- Overall performance: Very Good - Copy files: 78 seconds - File search: 115 seconds	1500GB 7200 rpm - eSATA-300, USB 2.0 - Cost per gigabyte: \$0.47
BOTTOM LINE: This large-capacity drive has multiple RAID options, good but not exceptional performance, and a steep price.			
10 Hammer Morespace \$120 find.pcworld.com/62160	70 GOOD	- Overall performance: Poor - Copy files: 135 seconds - File search: 110 seconds	1000GB 7200 rpm - USB 2.0 - Cost per gigabyte: \$0.12
BOTTOM LINE: Hammer's basic hard drive has an unattractive, boxy design, but it includes a power switch.			

CHART NOTE: Prices and ratings are as of 12/30/08. FOOTNOTE: ¹eSATA is external SATA.

What makes them different from all others?



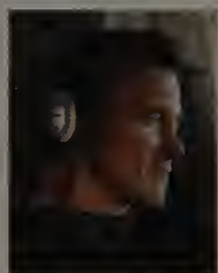
Bose® patented noise reduction dramatically fades distractions.

Bose patented TriPort® acoustic design delivers lifelike audio.

Bose patented ear cushions maximize comfortable fit.

Bose QuietComfort® 2 Acoustic Noise Cancelling® headphones

QuietComfort 2 headphones deliver an unmatched combination of noise reduction, lifelike audio performance and comfort. This is a result of our continuous research, over a period of 30 years since our original invention in 1978, to steadily improve the performance and comfort of our noise reducing headphones. They have now become the most highly acclaimed headphones worldwide.



Reduce unwanted noise. Bose patented noise reduction technology fades irritating distractions

with the simple flick of a switch. With less noise, your world becomes peaceful. You'll find flying more relaxing, in-flight entertainment clearer and more satisfying. *TechnologyReview.com* says, "It's as if someone...found the volume control for the world, and turned it way, way, down."

Enjoy music more. Even when you listen to music at home or in the office, Bose noise reduction lets you hear more of the subtle details

that make it so enjoyable. And our patented TriPort acoustic design enables a level of lifelike performance that has made Bose the most respected name in sound. *Travel + Leisure Golf* explains, "Forget 'concertlike' comparisons; you'll think you're onstage with the band." Or just unplug the audio cord and relax as Bose noise reduction envelops you in tranquility.

Experience a uniquely comfortable fit. Bose patented ear cushions, our choice of lightweight materials, minimal clamping force – these all add up to a fit that stays comfortable for hours. And that's a real difference you won't find in conventional headphones. Rich Warren of the *News-Gazette* reports, "It's easy to forget they are on your head."

Yours for a month, risk free. To fully appreciate the difference, we invite you to try Bose QuietComfort 2 headphones for a full 30 days – when you fly, when you work, when you relax at home. The more time you spend with them, the more you'll appreciate how different they really are.

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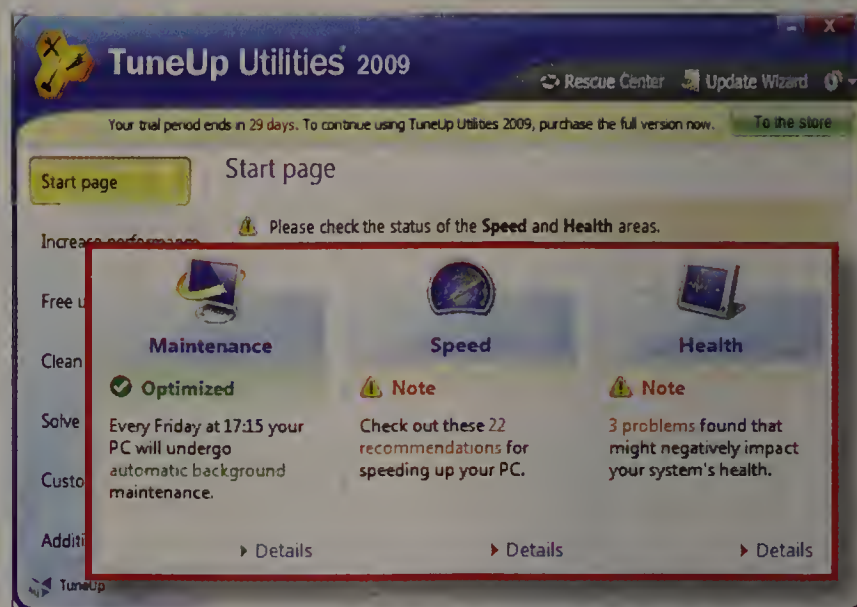
TuneUp Utilities Offers Easy PC Optimization

YOU CAN'T GO wrong with the latest version of TuneUp Utilities. The software does a comprehensive job of system cleanup—more so than most programs of its kind—to make your PC run faster, more smoothly, and without

problems. Tools include a startup optimizer, a driver defragmenter, an overall speed optimizer, a Windows Registry cleaner, and more.

They are organized intuitively, with their considerable features in easy reach. You can use either one-step optimizers or in-depth options to pick and choose among recommendations.

Even if you think you have already whipped your PC into shape, you'll likely find some additional help here. The Quick Optimization feature found half a dozen programs I didn't realize ran when my



TUNEUP UTILITIES OFFERS an interface that's helpful and easy to use. Note that you get a 30-day free trial before buying.

system started. The tool can stop these programs from running automatically; this sped my boot-up and cut down on RAM use.

Also, an excellent Rescue Center lets you undo any changes the program makes

to your PC (and provides access to System Restore).

Should you buy it? Many separate, free utilities do what TuneUp Utilities does. But no one freebie does everything. That's its appeal.

—Preston Gralla

88
VERY GOOD

TuneUp Utilities 2009

TuneUp Software

Tool suite offers an easy way to get comprehensive fixes for your PC.

List: \$50; free trial

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SiteAdvisor Adds Tools for Even Safer Searching

McAfee's POPULAR SiteAdvisor alerts you to potentially risky sites among your Web search results. The latest version, with a new feature

called Secure Search, is designed to make searching even safer—but the restrictions it places on surfing may be too severe for some users.

The browser plug-in (for Firefox and Internet Explorer) puts colored icons next to your search results so you know the status of the site before you click on the link: green for safe, yellow for caution, and red for risky.

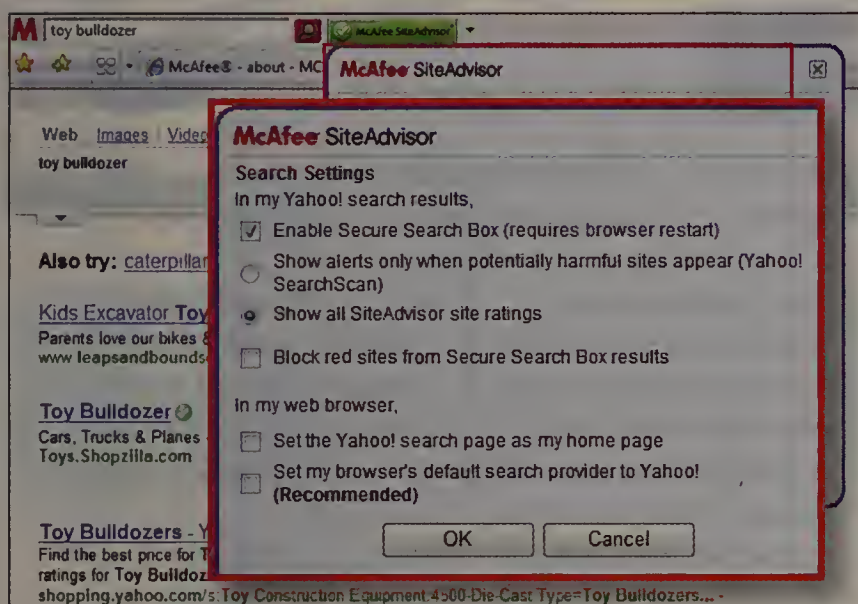
The update adds a Secure Search box to your browser toolbar, so you can, say, exclude red sites from search results but retain all yellow alerts. This box works only with Yahoo's search engine.

Such options aren't for everyone. Though blocking risky sites from kids or novices may be a sensible idea, other Web surfers will want all search results to be listed.

McAfee now labels some sites as "McAfee SECURE"—meaning more thoroughly tested and branded safe.

If you stick with Google, Secure Search will have little benefit. But you can still access the ratings. SiteAdvisor remains worth installing.

—Liane Cassavoy



SITEADVISOR'S NEW Secure Search feature works only with Yahoo.



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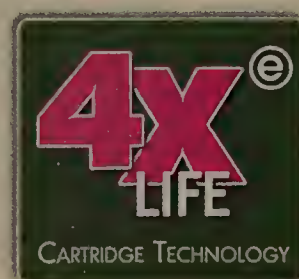
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Buying Guide: Bluetooth Headsets Set You Free

WHEN PAIRED with a compatible cell phone, a Bluetooth headset allows you to make calls without having to hold the phone in your hand. And Bluetooth headsets are more than just a convenience—in some jurisdictions, it may be illegal for you to use and talk on your cell phone without a headset while driving.

Bluetooth headsets typically come in two styles: over-the-ear or earbud (some can fit both ways). Over-the-ear (aka earhook) headsets can sport wide, loopy hooks or thin, narrow ones; they can be plastic, rubberized metal, or leather, too. Some headsets have earbuds that are completely round, while other earbuds have tips that protrude.

In a perfect world for headset makers, people's ears would be identical. They aren't, of course, and that's why we prefer that headset bundles include multiple options to help you find a good fit. Some manufacturers are generous with their goodies, providing small, medium, and large earbuds, along with an additional earhook or two. Others give you an AC charger and a user guide, but nothing else in the box.

Bluetooth technology permits two devices to talk to each other wirelessly over



ALIPH'S NEW JAWBONE, our Best Buy pick, offers crisp sound and several earpiece alternatives.



THE NO-HOOK PLANTRONICS Discovery 925 is easy to position, and its audio is top-notch.

low-frequency radio waves in the 2.4-GHz range. Both of the devices, such as a cell phone and a headset, must be Bluetooth-enabled.

To start pairing between a headset and a phone, you use your phone's interface, making sure that the headset is turned on and in pairing mode. The phone searches for and locates the headset. To establish a connection, depending on the version of Bluetooth that your phone and headset support, you may need to enter a PIN on your phone's keypad; afterward, your phone will recognize the headset.

Your paired Bluetooth phone and headset don't need to be in direct line of sight to function properly and maintain their connection. Depending on your headset's range, however, you can't roam too far. You can determine what a headset's operating range is by looking at its classification. Most headsets on the market today are Bluetooth Class 2, which limits you to a working range of up to roughly 33 feet. Headset models supporting Bluetooth Class 1 offer a range of up to 328 feet, but currently

they are far less common.

In addition to the classification, you should keep the Bluetooth profile in mind. This specification defines the standard capabilities of a Bluetooth-enabled device. For any Bluetooth headset that you consider, look for the following two common profiles in the product's specifications list.

Headset Profile (HSP): You can talk on the phone through the headset, and you can accomplish basic things such as accepting incoming calls, hanging up,

and adjusting the volume.

Hands-Free Profile (HFP): A headset's support for this profile enables you to talk on the phone and operate it. For example, you can redial the last number, handle call waiting, and dial by voice.

Buying Tips

The last thing you want is to commit to a Bluetooth headset and discover that it's a bad match. Here are a few pieces of advice to remember as you shop around.

If you talk on your cell phone a lot in your car or on public transportation, or in other potentially noisy surroundings, look for a headset with a good reputation for noise cancellation. Try different designs, too, since it's hard to know what will feel comfortable until you put on both types. If you wear glasses, remember that using an earhook can be a real pain—your glasses and headset compete for space in the same spot.

If you're the kind of person who will pop a headset on and off a bazillion times a day, consider a headset that goes straight into your ear—no over-the-ear jockeying required. On the flip side, if



JABRA'S VERSATILE AND lightweight BT530 comes with earhooks and several ear gels so that you can find the right fit.

MORE ONLINE

To see our in-depth reviews of all the Bluetooth headsets we tested this month, browse to find.pcworld.com/62317.

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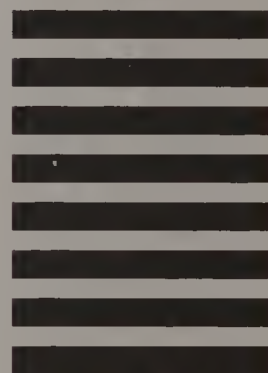
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you plan to leave the headset in your ear for extended periods of time, think about whether an earhook model would be more your style. Such a design might make the fit more secure.

Make sure, too, that the headset you plan to buy will support the cell phone you own; some Bluetooth headsets do not support all Bluetooth phones. Many headset manufacturers provide compatibility lists on their Web sites, where you can search for your mobile phone's specific make and model.

Our Test Results

We'd like to say that call quality through a Bluetooth headset is consistent and comparable to—or better than—what you get from a cell phone on a good day. But it isn't. In my testing, even the best-sounding headsets overall still had their off moments, producing faintness, voice distortion, echoes, and disappointing background-noise cancellation, for example.

I looked at ten headsets across a range of prices and designs, and I discovered that you can get many great features, but only if you're



MOTOROLA'S MOTOPURE H15 has a flip-open microphone, which turns the unit on and off.

PC WORLD TOP 5 BLUETOOTH HEADSETS

MODEL	PCW Rating	Performance	Features and specifications
1 BEST BUY Aliph Jawbone \$130 find.pcworld.com/62106	87 VERY GOOD	• Audio quality: Superior • Comfort: Very Good • Design: Very Good • Button placement: Good	• Earhook • 0.35 ounce • 2.1 by 0.6 by 0.9 inches • Included USB adapter
BOTTOM LINE: The rugged-looking Jawbone offers excellent audio quality, multiple earpiece options, and a clean design.			
2 Plantronics Discovery 925 \$150 find.pcworld.com/62109	85 VERY GOOD	• Audio quality: Very Good • Comfort: Superior • Design: Very Good • Button placement: Good	• Earbud • 0.28 ounce • 2.7 by 1.0 by 0.9 inches • Included USB adapter
BOTTOM LINE: A great-sounding headset, the 925 is easy to fit in your ear, and it comes with a rechargeable carrying case.			
3 Jabra BT530 \$100 find.pcworld.com/62110	84 VERY GOOD	• Audio quality: Fair • Comfort: Very Good • Design: Very Good • Button placement: Good	• Earhook or earbud • 0.35 ounce • 1.9 by 0.8 by 0.5 inches • Included USB adapter
BOTTOM LINE: Jabra's BT530 provides a secure fit—with or without the earhook—but audio quality was inconsistent in tests.			
4 Motorola Motopure H15 \$130 find.pcworld.com/62111	82 VERY GOOD	• Audio quality: Good • Comfort: Good • Design: Superior • Button placement: Good	• Earhook • 0.49 ounce • 1.5 by 0.9 by 0.5 inches • No USB adapter included
BOTTOM LINE: Compact with a flip mic, the H15 keeps out background noise and responds reliably to voice-activated dialing.			
5 Nokia BH-804 \$20 find.pcworld.com/62108	81 VERY GOOD	• Audio quality: Fair • Comfort: Good • Design: Very Good • Button placement: Good	• Earbud or earhook • 0.25 ounce • 1.7 by 0.5 by 0.2 inches • No USB adapter included
BOTTOM LINE: The tiny, lightweight BH-804 fits well, but call quality was consistent only when we were close to the phone.			

CHART NOTE: Prices and ratings are as of 12/1/08.

willing to pay top dollar for a headset. And even if you cough up \$100 or more, you may find that your chosen model has some drawbacks, depending on your fit preferences and usage habits.

Our Best Buy choice, the new \$130 Aliph Jawbone, delivered superb audio: Voices sounded crisp generally, and the headset did remarkably well at reducing background noise. In addition, the package includes multiple earpiece components, which improves your chances of finding a good fit.

The second-ranked headset, the \$150 Plantronics Discovery 925, felt comfortable and snug in my ear. Since it uses no hook, the Discovery didn't interfere with my eyeglasses. Though conversations sounded clear,

in noisy environments the Discovery failed to mitigate background noise as well as the Jawbone did.

My experiences with some other models on the chart underscored our finding that you can't have it all in a single headset. For example, you can use or remove the earhook on the \$100 Jabra BT530; either way, the fit



THE NOKIA BH-804 is small and light, but audio quality suffered a few feet from our cell phone.

feels secure. But in my tests the call quality was unreliable, with superclear calls one minute and voice distortion and annoying echoes the next. Meanwhile, the hook-based, \$130 Motorola Motopure H15, despite some voice breakups during calls, impressed with its elimination of background noise. Its unique flip microphone helps conserve battery life when closed.

Nokia's BH-804, in fifth on our chart, is the lightest of the models I tested. Factor in its dainty size, and this headset feels even lighter—and not surprisingly, very discreet. Unfortunately, its call quality varied, deteriorating rapidly when I moved about 9 feet or farther away from my mobile phone.

—Aoife M. McEvoy

Samsung, Cowon Audio Players Sound Good

PCW Test Center THERE'S CLEARLY no stopping the iPod—but in our latest Top 10 list, the versatile, great-sounding Creative Zen X-Fi (our longtime number one pick) still edges out Apple's latest audio players.

New and in fifth place is the \$80 Samsung S3, a sleek and pocketable 4GB flash player that offers excellent sound quality and an intuitive interface. Though the S3 isn't as feature-packed as the iPod or Microsoft's Zune, it is a great value. Ranking just below the S3 is the \$200, touch-screen Cowon O2, a



COWON'S O2 OFFERS terrific audio and video playback.

hefty 8GB player that supports a wide array of media formats but lacks ID3 tag sorting and can't play DRM-protected files.

Microsoft's \$179, 16GB Zune just barely remains on the chart, in desperate need of a redesign and sound-quality improvements to help it keep pace with the other flash players on the market.

—Ginny Mies

MORE ONLINE

To read our reviews of all the flash-based audio players ranked in this chart, browse to find.pcworld.com/62319.

PC WORLD TOP 10 FLASH-BASED AUDIO PLAYERS

MODEL	PCW Rating	Performance	Features and specifications
1 BEST BUY Creative Zen X-Fi \$280 find.pcworld.com/61434	85 VERY GOOD	- Overall audio quality: Very Good - Signal-to-noise ratio: 83dB - Overall design: Superior	32GB - FM tuner and voice recorder - Displays photos and videos 2.4 ounces
BOTTOM LINE: The Zen X-Fi has great sound quality, plus good features, headphones, and storage options—for a nice price.			
2 Apple iPod Touch \$399 find.pcworld.com/62151	83 VERY GOOD	- Overall audio quality: Superior - Signal-to-noise ratio: 81dB - Overall design: Superior	32GB - No FM tuner or voice recorder - Displays photos and videos 4.1 ounces
BOTTOM LINE: The iPod Touch remains the class of the field, with beautiful design, useful apps, a touch screen, and Wi-Fi.			
3 Creative Zen \$250 find.pcworld.com/60161	83 VERY GOOD	- Overall audio quality: Very Good - Signal-to-noise ratio: 77dB - Overall design: Superior	32GB - FM tuner and voice recorder - Displays photos and videos 2.1 ounces
BOTTOM LINE: This gadget-lover's player lacks Wi-Fi but has lots of other features and wide format support, and takes SD Card.			
4 Apple iPod Nano \$199 find.pcworld.com/61813	82 VERY GOOD	- Overall audio quality: Superior - Signal-to-noise ratio: 83dB - Overall design: Very Good	16GB - No FM tuner or voice recorder - Displays photos and videos 1.3 ounces
BOTTOM LINE: Despite its new design, the fourth-generation iPod Nano is an evolutionary update, not a major overhaul.			
5 Samsung S3 \$80 NEW find.pcworld.com/62153	81 VERY GOOD	- Overall audio quality: Very Good - Signal-to-noise ratio: 81dB - Overall design: Good	4GB - FM tuner - Displays photos and videos 1.8 ounces
BOTTOM LINE: With its sharp design and high sound quality, the Samsung S3 is a great value-priced flash player.			
6 Cowon O2 \$200 NEW find.pcworld.com/62154	80 VERY GOOD	- Overall audio quality: Very Good - Signal-to-noise ratio: 85dB - Overall design: Very Good	8GB - Voice recorder - Displays photos and videos 7.2 ounces
BOTTOM LINE: The Cowon O2 supports an astonishing number of formats, but its lack of ID3 tag support is disappointing.			
7 SanDisk Sansa Fuze \$120 find.pcworld.com/60673	78 GOOD	- Overall audio quality: Very Good - Signal-to-noise ratio: 80dB - Overall design: Good	8GB - FM tuner and voice recorder - Displays photos and videos 2.1 ounces
BOTTOM LINE: A low price, a deep feature list, and an ultracompact design make the Sansa Fuze a worthy Nano competitor.			
8 Creative Zen Mozaic (2GB) \$60 find.pcworld.com/61706	78 GOOD	- Overall audio quality: Very Good - Signal-to-noise ratio: 82dB - Overall design: Good	2GB - FM tuner and voice recorder - Displays photos and videos 1.5 ounces
BOTTOM LINE: The Zen Mozaic is a good low-priced portable audio player, but it comes with a few quirks.			
9 iRiver Spinn \$290 find.pcworld.com/61927	76 GOOD	- Overall audio quality: Good - Signal-to-noise ratio: 77dB - Overall design: Very Good	8GB - FM tuner and voice recorder - Displays photos and videos 2.5 ounces
BOTTOM LINE: Possibly the best-looking player of them all, the iRiver Spinn boasts a large, gorgeous AMOLED display.			
10 Microsoft Zune 16GB \$179 find.pcworld.com/61815	76 GOOD	- Overall audio quality: Good - Signal-to-noise ratio: 80dB - Overall design: Very Good	16GB - FM tuner - Displays photos and videos 1.7 ounces
BOTTOM LINE: Though it has new features and a capacity upgrade, the Zune needs a redesign to keep up with flash competitors.			

CHART NOTE: Prices and ratings are as of 12/30/08. For signal-to-noise ratio, higher is better.

With Spector 360, it might as well be stamped on their forehead!

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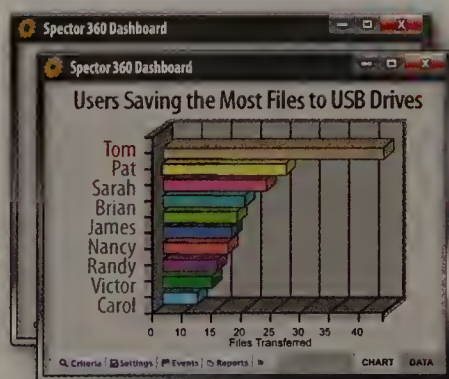
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- 2 Which employees spend the most time surfing web sites and see EXACTLY what they do on them.
- 3 What employees search for on Google, MSN, Yahoo and more.
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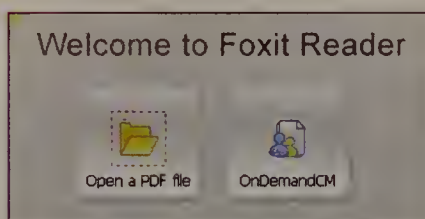
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Lightweight Alternative to Adobe

LOOKING FOR A lightweight alternative to Adobe Reader? Foxit Reader fits the bill. Version 3.0 adds multimedia handling, so you don't need Adobe's app to see graphics-intensive PDFs.

I was concerned when I read the list of new features in 3.0; after all, I started using the tool for its speed and lack of bloat. But it's still only a 4MB download, and it's still pretty fast.



SPEEDY AND COMPACT, Foxit Reader handles PDFs capably.

As with many free programs, you have to endure some advertising. The installer asks to add a Foxit toolbar and an eBay shortcut, and offers to set your home page to Foxit Software. And though the free version lets you alter content handily, it adds watermarks that vanish only when you buy the \$40 Pro Pak version.

—Jon L. Jacobi



Foxit Reader 3.0
Foxit Software

PDF reader takes up far less space than Adobe's, and runs much faster.

Free

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Navigate Data and Edit Video the Easy Way

THINGS COULD STAND to go a little more smoothly, couldn't they? We couldn't agree more, so we've lined up some simplifying software. A free Windows Explorer add-in helps you navigate data quickly. A free video editor spares you long and unnecessary reencoding. And with all the time that those tools help you save, you can afford to cut loose with a game demo that turns tunes into a racetrack and lets you ride the music. Surfing to Santana sounds about right.

FilerFrog

If you're looking to improve on Windows Explorer (and who isn't?), give FilerFrog a try—it offers a ton of features that you'll wish had been built into the operating system. It works as an add-in to Windows Explorer: Simply right-click a file or folder, and FilerFrog appears on the context menu, giving you access to a variety of new file- and folder-management features.

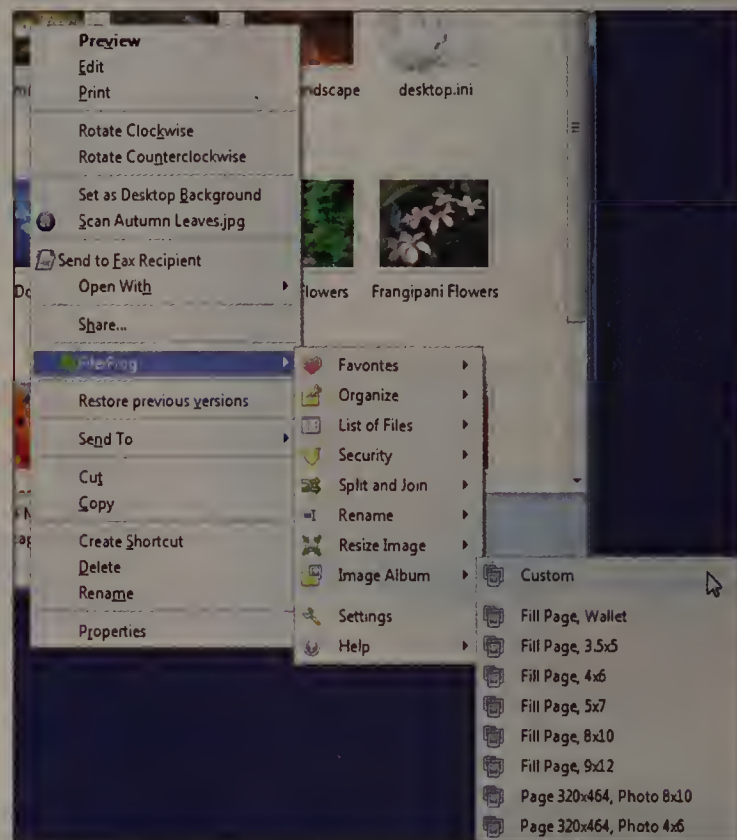
The complete feature list is far too lengthy to mention here, and some of the options you may never use. But for starters, you'll be able to resize any image quickly, as well as create your own album of favorite photos. You can encrypt your files to keep them private, and then decrypt them at any time. Want to rename multiple files in one swoop? FilerFrog makes that task a snap, too. find.pcworld.com/62320

—Preston Gralla

Avidemux

Every video editor I've tried insists on reencoding my video even if all I did was cut or trim—until Avidemux. If you're saving to the same type of video, it simply copies all the unedited material to a new file. Talk about a time-saver.

Avidemux also reencodes in a variety of formats such as MPEG-2 and MPEG-4, and for me it proved quite fast and stable in that regard. Though the program isn't perfect, it's the best video editor and encoder I've run across in overall usability, usefulness, and performance.



FILERFROG LEAPS TO the rescue with an array of practical context-menu features missing from Windows Explorer.

The application is also straightforward and easy to use, assuming you have a fair knowledge of the process. find.pcworld.com/62321

—Jon L. Jacobi

Audiosurf

What's cooler than listening to your music while playing a video game? The answer: Having your music become the game. Audiosurf uses data in music files (it supports most common formats, such as MP3, M4A, and Ogg) to create a "racetrack." You pilot one of many ships (in the demo, which allows just five plays, only a handful are unlocked) along the curving track, scooping up colored squares. As you do so, patterns form, and when three or more touch, they "pop."

The game calls for quite a bit of strategy—"hot" colors, like red and yellow, are worth more points, but "cool" colors are more common. But the neatest part is that the track, the pacing, and the block placement are all dynamically generated from your music. This is not the first game to use files on your disk to generate an environment, but it is one of the most fun I've seen to use the technique. find.pcworld.com/62322

—Ian Harac ●

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High- Risk Security Threats

SECURITY SPECIAL REPORT 

And How to Fix Them

If you use a social network, a Web browser, a public computer, or a cell phone, you're in grave danger of falling victim to attacks on your PC, your bank account, your personal privacy, and more. Here are 17 common threats and the fixes to defend yourself. »

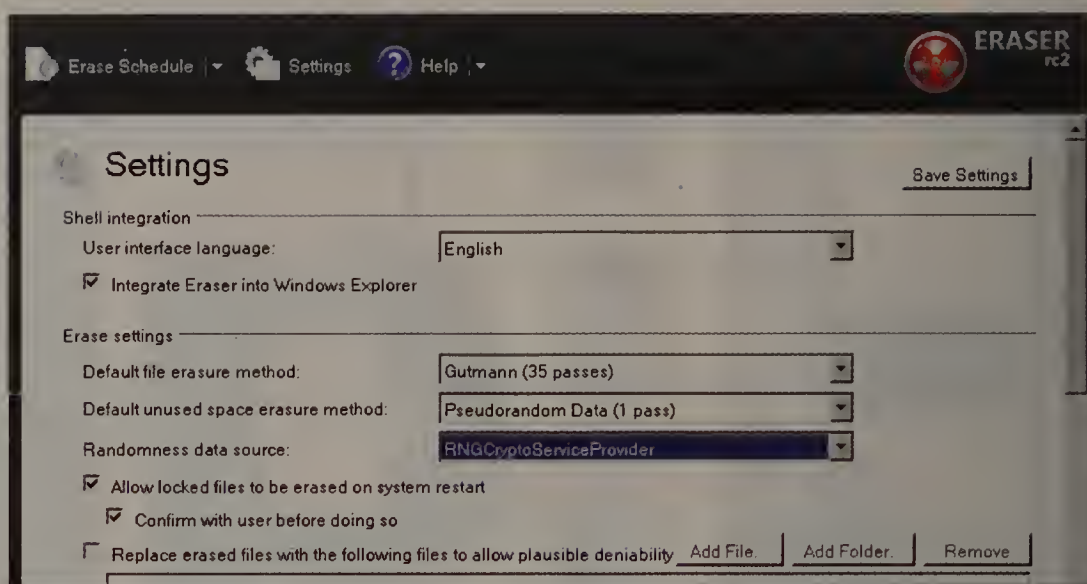
BY ANDREW BRANDT
ILLUSTRATION BY BRIAN STAUFFER

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The Tell-Tale Browser Cache

Maybe you've just received some bad news from your doctor—a diagnosis of a serious medical condition, something you may not be ready to reveal to others. You decide to do a little Web research on the topic, but you don't want any trace of what you were doing to remain on the computer, lest someone stumble upon your secret. Or perhaps you've been shopping for the perfect engagement ring. If the intended recipient were to see the names of jewelry Web sites included in the list of fragmented files displayed during a defrag session, it could spoil the whole surprise.



Overwrite sensitive system data with the free Eraser utility.

Designed to speed up surfing, a browser cache keeps copies of text, images, and snippets of code from the Web pages a person visits. Obviously, you could learn a lot about some-

one's surfing habits and interests by dumpster-diving in this collection—much more than by looking at the History list. Other saved content might include the text of e-mail messages read via Web mail. For some time, Firefox, Safari, and a few other browsers have given users considerable control over cache trashing, but Internet Explorer 8 will be the first version of IE to offer a secure browsing feature, called InPrivate, designed to eliminate any traces of history when you shut down IE.

InPrivate deletes browsing history, cookies, and Registry traces that would enable someone to retrace your online steps. It doesn't prevent the cache from collecting content, however.

(fix) The best way to keep a truly clean slate is to prevent the browser from leaving anything on the hard drive. You can do this in two ways: Instruct IE to save its cache to a portable drive that you keep plugged in when you use the browser, or use a software utility to wipe the cache securely after you're through surfing. You can do the former (using IE) in four steps: Open the *Internet Options* control panel, click the *Settings* button in the Temporary Internet Files section, click the *Move Folder* button, and navigate to a folder on your external drive. For the latter, try an excellent free tool called Eraser (find.pcworld.com/62346); it securely deletes browser cache files (and other data) by overwriting the files numerous times.

Browser History Snooping

You may have nothing to hide, but that doesn't mean that your browsing history won't get you in trouble. Out of context, entries in a list of sites you recently visited are easy to misconstrue.

(fix) Try using your browser's private browsing feature—but don't depend on it. Long a feature of Apple's Safari browser, private browsing lets you surf the Web without leaving a trail of Web site addresses behind. Once you turn on Private Browsing in Safari, Apple says, you'll leave no trace of the sites you visit.

Add-ons for the Firefox browser offer Windows users the same benefits: An app called Distrust (find.pcworld.com/62347)

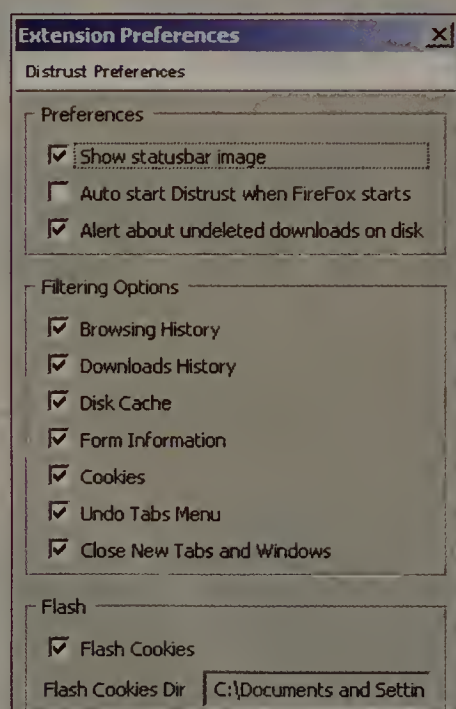
gives users of Firefox 2.x and 3.x a way to manage their browsing history; some files that Firefox temporarily writes to disk

private browsing features to the browser itself. Two add-ons—'Private Browsing' and 'Toggle Private Browsing'—provide granu-

lar control over settings to help users manage the new features. (Warning: In recent testing by a security firm to see which browsers' tools do best at protecting against tracking by visited Web sites, Firefox, Google's Chrome, Microsoft's Internet Explorer 8 beta, and Safari all fared poorly, with Safari in last place.)

But no browser can completely prevent inquisitive sites from tracking your

visit. For maximum anonymity, try the fee-based Anonymizer (anonymizer.com) or the free Tor (find.pcworld.com/62344).



Distrust, a free add-on, can hide surfing trails left in Firefox.

aren't erased until the browsing session ends, however. Firefox 3.1 (now in beta form) is likely to add more-comprehensive



Card Skimmer Scams

Caroline Knorr usually trusts ATMs, especially those at her credit union's Daly City, California, branch. Unfortunately,

banks, 25 miles away. "I had a sleepless night because we'd had \$1000 stolen from us. How do you prove that an ATM withdrawal wasn't done by you?" she says. The next morning brought another \$500 withdrawal—this one from a bank in Santa Barbara, 300 miles to the south.

The credit union rep told Knorr to file a police report and said that 200 or so other customers had had their card

numbers stolen, too.

"They said they'd credit our account for the money that was taken out," a relieved Knorr notes.

(fix) The police officer who took Knorr's crime report told her that scammers with skimmer devices usually target card slots at gas pumps but sometimes target ATMs at small, local banks whose ATMs are outside the build-

How often do you scrutinize the card slot on your ATM? But I did notice that something didn't look right... I definitely registered that it looked different.

—Caroline Knorr

ing and aren't covered by security cameras. Your safest bet: Familiarize yourself with an ATM's outward appearance, and pay attention to the card slot itself: If you notice an unexpected part or sheath surrounding the card slot, either use a different ATM or make your transactions inside the bank. >>

Inset: Don't swipe here. Skimmers like this one fit over ATM card slots.

stuck on top of the ATM's card slot. The skimmer's internal memory records data from a card's magnetic strip, while another device monitors the ATM's keypad and records the PIN code. Using that data, a thief can manufacture a card and use it at another ATM. This is what happened to Knorr.

Within 24 hours of a deposit, the crook made two \$500 ATM withdrawals from her account at different

Online Pricing Dodgeball

Prices at online stores may fluctuate while you are shopping. How can you lock in a good deal?

(fix) Amazon PriceWatch (find.pcworld.com/62329), an IE/Firefox plug-in, monitors an item you're interested in and alerts you when its price falls below an amount you specify. Similarly, Price Protectr (priceprotectr.com) warns you if the price of a product that you recently bought online is reduced, so you can claim a partial refund under the store's price guarantee policy.

Discoverable Passwords

As Alaska Governor Sarah Palin found out last summer when a hacker broke into her Yahoo mail account, having a strong password is not enough. If your answers in the "secret questions" section of your online profile are easy to find, a bad guy may be able to convince the Web mail service's password-recovery mechanism to hand over the password on a platter.

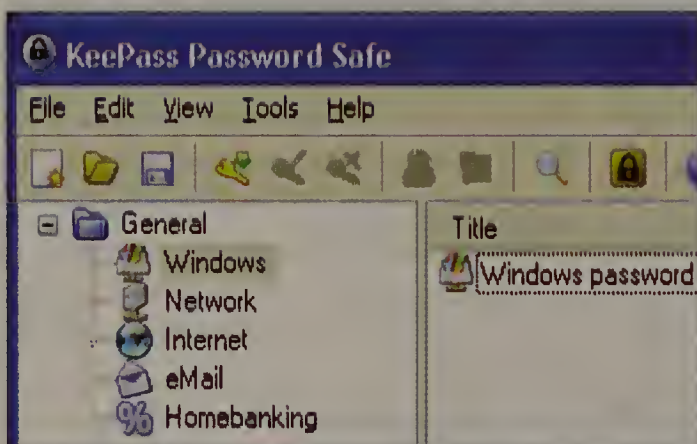
These days everyone has a LinkedIn account, a

Facebook profile, and a Twitter feed, each of which is studded with answers to commonly used security questions such as your high school and your dog's name.

(fix) Use a password manager religiously, and be sure to back up your password files. Bruce Schneier's Password Safe (find.pcworld.com/62335) and PortableApps.com's version of KeePass Password Safe software (find.pcworld.com/62334) are

two good places to start.

Once you've created a random, unguessable password, generate a second, different password in the password management utility to use as the answer to the inevitable "mother's maiden name" question (or questions). Mom may not appreciate being identified in some password bank as Miss 7#BrE_r, but no one will guess that that's how you listed her in your "secret questions" data sheet.



Control password security with KeePass. This free open-source password manager helps you keep track of a multitude of passwords in a single secure database.

increases their vulnerability. And because scores of casual visitors use them to log into e-mail or other services, data thieves view the PCs as an efficient source of harvestable information, which they then sell to spammers and other unsavory types.

(fix) If you can reboot the PC, your safest bet is to carry a copy of the Knoppix bootable operating system (find.pcworld.com/57261) on a CD, DVD, or flash memory drive; you can customize your build with up to 2GB of Internet tools, productivity apps, and utilities. If you have to use the machine's Windows OS, you're better off running your applications from a portable drive using the excellent suite of tools available from PortableApps.com (find.pcworld.com/60201). This site hosts dozens of apps that have been "portabilized" so that they store all temporary files, cache files, and history on the portable drive itself.

To protect yourself from malicious software that may be lurking on a public PC, scan the machine with the portable (and free) ClamWin antivirus software (find.pcworld.com/60646), and carry your own customized browser, office apps, IM clients, and secure file-transfer tools. Also, a password manager tool such as KeePass (see the box above) lets you change passwords as soon afterward as possible.

Public PCs That Slurp Passwords

Public PCs located in places like schools, cybercafés, trade shows, and libraries tend to be infected with password-stealing Trojan horses more frequently than most other systems. Many of these public PCs aren't closely monitored by their owners, which

Online Credit Card Exposure

An e-mail message from a large online retailer announces that an order you recently completed is ready to ship—except that you didn't order anything. So you follow a link in the message that supposedly leads back to the site's log-in page. On it, a Web-based form lists the wrong credit card number and address for your account and requests that you confirm or correct the information to initiate the company's dispute resolution process. You enter your card number, the card's expiration date, your billing address, the card verification value (CVV) number printed on the back, your birth date, and your dog's favorite flavor of Milk Bone. Uh-oh: You've just delivered your card details right into the hands of savvy phishers.

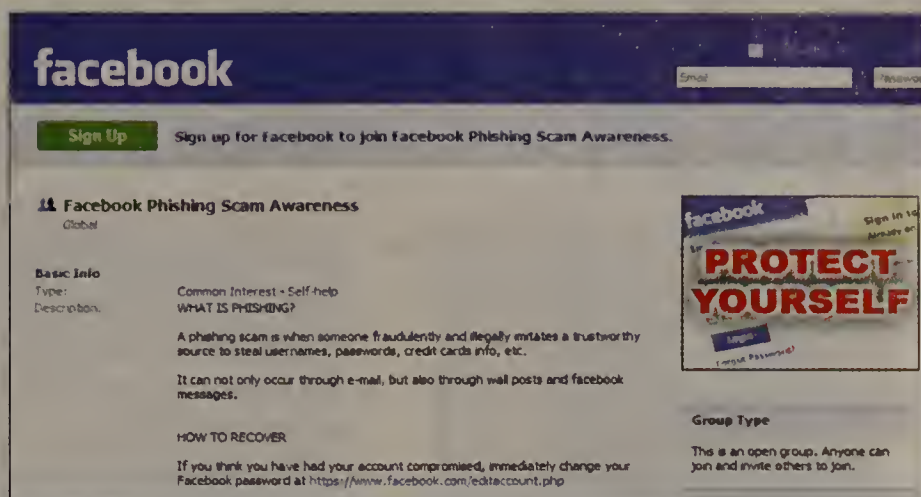
Consumers aren't liable for more than \$50 of fraudulent credit card charges, but all credit card users bear the burden of fraud in the form of higher fees and interest rates that protect the profit margin of the credit card issuer. In addition you'll spend considerable time canceling credit card accounts, getting new cards issued, checking your credit reports, and changing the numbers in various accounts if you use them for automatic payments.

(fix) Some larger banks still offer single-use, "disposable" credit card numbers: You log in to your bank's Web site and identify the total amount of your purchase from the relevant online shop, and the banking site responds by spitting out a "credit card" number that can be used only for that amount and at that online store. Bank of America's ShopSafe, Citibank's Virtual Card Numbers, and Discover's Secure Online Account Numbers are still going strong, though American Express killed off a similar service years ago.

Antisocial Social Networking

A message from one of your friends appears in your inbox, sent via a social network site that you use regularly. The message promises a big laugh and points to a Web site you've never heard of. You click the link—and the next thing you know, your PC is misdirected to a phishing page that steals your log-in details or to a drive-by download site that infects your system with a password-stealing Trojan horse. And your friend says that she never sent you the message.

Whether the culprit is a fake LinkedIn profile page that serves up URLs leading to dangerous Web sites or a bogus Twitter message that purportedly comes from a friend, social networks are rapidly becoming the newest medium for malware attacks. As operating systems and applications became harder to hack directly, online criminals came to realize that



Social networks try to coach their users to avoid phishing scams.

it was much easier to fool people into clicking bad links, opening dangerous files, and running malicious software. They also figured out that the most effective place to exploit the trust that naturally exists between friends and colleagues was within the mechanisms of the online social networks themselves.

By now, most Internet users are savvy enough to recognize spam e-mail. But what about a spam tweet that seems to

come from someone in your circle of friends and links to a page that looks almost exactly like the one you use to log in to Twitter? A week may go by, and suddenly the data thieves who now control your account begin sending messages with URLs—some of which perform drive-by downloads and infect the recipients' PCs with malware—to everyone in your social network.

Facebook and MySpace users have already had to deal with a number of worms and other nasties that are designed to spread independently of any action taken by the account holder. You can expect many more of these automated attacks to occur in the future.

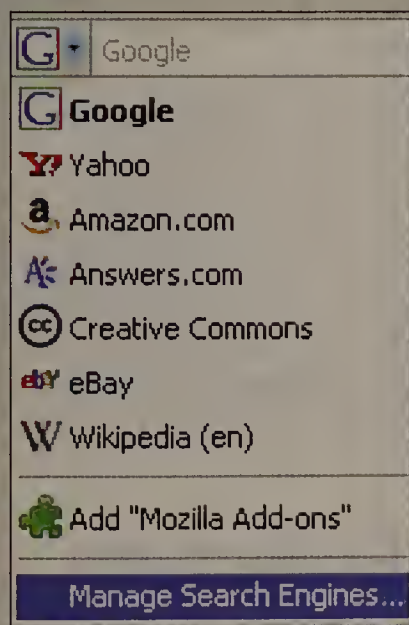
(fix) If you think that details of your social networking account may have been stolen or compromised in some other way, report your suspicions to the site's support team immediately. Change your password frequently, and avoid clicking message links that purport to transfer you back to the social network site. Instead, to get back to your account, type the site's address directly into your browser (or follow a bookmark that you saved previously) . >>

Your Privacy in Google's Hands

Google seems to be everywhere these days. Aside from its exemplary search engine, the company offers services for e-mail, news feeds, and shopping. Furthermore, many of your favorite Web sites probably use Google to serve ads, syndicate content, or even track their own performance. Your Google account is like a diary of everything you do online, tracking your surfing behavior and noting trends you may not be aware of.

The sheer breadth of information that Google handles for people is startling: e-mail, instant messaging, VoIP phone calls, photos, maps, finance and investment

portfolios, home and work addresses, reading preferences, video interests and assessments, online pur-

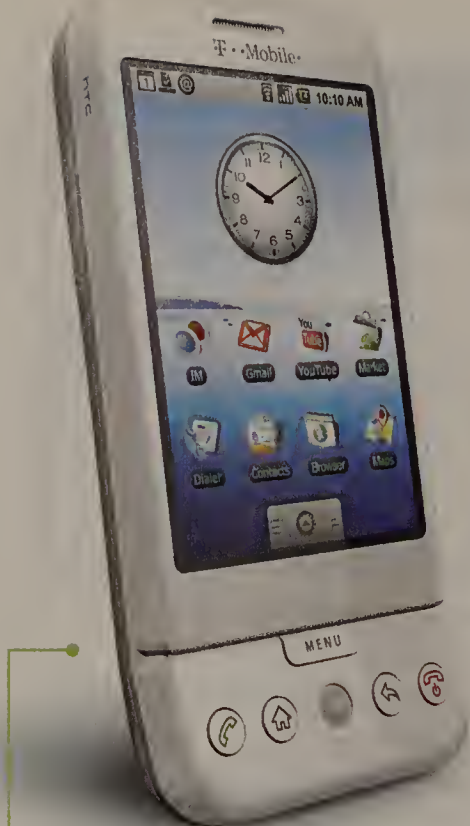


To choose a different search engine in Firefox, use a drop-down menu next to the search field.

chases, most frequent searches, and clicked-on search results. Can you trust a commercial enter-

prise with so much valuable information about you at its disposal to live up to its "Don't be evil" corporate mantra? That remains to be seen.

(fix) You can partly extricate yourself from Google, but don't assume that the big G isn't still all around you. Change the default (Google) search settings in Firefox if you must; and stop using Gmail, iGoogle, and your Google Account if you're really concerned. But so many sites now incorporate the company's AdSense, Analytics, and syndication components that completely going off the Google grid may be virtually impossible for anyone who uses an Internet connection.



T-Mobile's Nosy G1 Phone

Most of what you do on Google's Android mobile phone platform (T-Mobile's G1) is mirrored to your Google Account Web page. Every e-mail sent, every calendar entry cre-

T-Mobile's G1 phone: The snoopiest smart phone around?

ated, even every Web site visited becomes catalogued. Furthermore, the phone's ability to locate itself via radio tower and

by GPS may make it highly trackable.

Among the downloadable applets that you can use with the G1 are tools to track the phone's position on a Web page or via text coordinates you can plug into a map, and tools to show you other Android users within a 10-mile radius. Many of the downloadable applications have access to your phone logs and phone book, and have permission by default to connect to the Internet.

(fix) For many people, these potentially snoop-friendly features are useful and welcome. But if you are seriously interested in privacy, think twice before committing to the G1. We recommend waiting until Google tweaks the Android software to rein in the intrusiveness, or buying a different phone.

Voice Phishing (aka 'Vishing')

You receive an e-mail or get a prerecorded voice message (supposedly from your bank, or PayPal, or some other financial institution) informing you that a large transaction—one you never performed—has been held up. The message includes a toll-free telephone number that you should call right away to deal with the situation. When you dial the number, a voice menu prompts you to key in your card number before it transfers you to a company representative. The vishers ask you to enter other data as well, such as the expiration date and/or the CVV number printed on the back of your card. If you act without thinking clearly, you might provide all of the information they ask for. At this point, they have your number—literally—and they may just hang up on you or put you on hold indefinitely.

(fix) If you get a fishy call or e-mail, ratchet up your suspicion meter. Don't call the number provided in an unsolicited e-mail or voicemail message to follow up on a mystery purchase; instead, dial the bank's number printed on the back of your card. Report vishing attempts to the Internet Crime Complaint Center (www.ic3.gov).

Personal Data Loss by Phone

When the winding-down GOP 2009 campaign sold staffers' BlackBerrys with e-mail messages, call records, and contact lists in place, there was egg on the faces of everyone at campaign headquarters. Resetting a smart phone to its factory-default state takes only about 5 minutes, but many people fail to take this simple precaution. A used phone could wind up anywhere, and yet many sellers just box it up and hand it over.

(fix) Before ditching an old phone, use its reset codes or menu options to clear its message archives and contacts list. Visit the

ReCellular Data Eraser page (find.pcworld.com/50670) to learn how to reset your phone—and follow the instructions!



Recellular's free Data Eraser wipes phones clean.

Reversible Redactions

The black bars that cover the names, locations, and dates in printed documents work for a paper report, but not for digital documents. Anyone armed with the full version of Adobe Acrobat can remove a black bar painted over text in a PDF file.

(fix) NASA has clear online instructions for making irreversible redactions. For Word documents, just save a new copy of the file that you plan to redact: Turn off *Revisions Mode*, and then type text over the text you need to redact. To redact content in PDF files, either use a third-party plug-in such as Appligent's \$249 Redax (find.pcworld.com/62336) or cover the text in the PDF file with black bars, convert the PDF to a TIFF image, and then reconvert the TIFF to a PDF. The only downside is that readers lose the ability to search text in a PDF converted in this way. >>

A Clean Sheet



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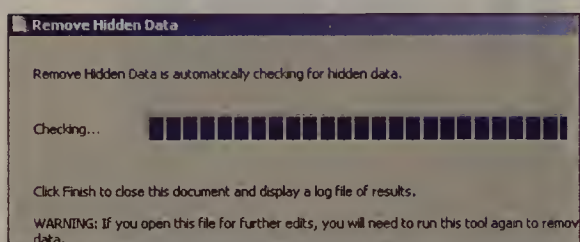
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Hidden Data in Your Documents

The draft of a collaborative report written in Microsoft Word is riddled with notes, questions, and a few impolitic gripes inserted by various participants. You clean up the document before sub-



Microsoft's Remove Hidden Data tool lives up to its name with Office documents.

mitting it to the boss, but the comment "Do they really expect people to buy this crap?" (along with the name of the person who

added it, and when) hasn't vanished—it's simply hiding. Besides its potential embarrassment value, embedded information makes data theft easier for a corporate spies. Ignore it at your peril.

(fix) For Office XP and Office 2003 files, you can download Microsoft's Remove Hidden Data tool (find.pcworld.com/59904). For Office 2007 documents, you can use the Document Inspector command to view and (optionally) delete unwanted metadata remnants from your Word, Excel, and PowerPoint files.

Malware for Mac Users

Advertising touts the Mac's supposed invulnerability to invasive attacks, but Macs are subject to many kinds of security problems, including malware that employs deceptive techniques to fool users into installing it.

(fix) If you use a Mac, don't assume that your system is impregnable. You need to keep up with security updates just as Windows users do—both the automatic updates that Apple releases and various patches for third-party software (such as Adobe Reader, Flash, Java, and Office) whose makers may not automatically alert you that a new version is available.

Zero-Day Attacks

In the final quarter of 2008, Microsoft released two security patches for Internet Explorer—known as MS08-067 and MS08-078—immediately, rather than waiting until the next "patch Tuesday" (the first Tuesday of each month) rolled around. The release date for each was rushed forward when experts detected attacks in the wild that exploited vulnerabili-

ties that the patches fixed.

Microsoft delivered the two IE patches with commendable speed. But the occurrence of two high-profile "out-of-band" releases within two months is a bit worrisome.

(fix) Obviously, Windows' Automatic Updates will eventually install the patches you need. But its Automatic Updates tend to roll out slowly, leaving

your PC vulnerable during the critical time between the public release of the patch and the moment when you install it.

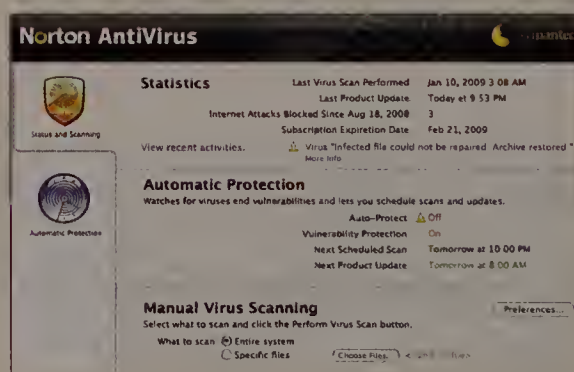
There is no technical fix for this danger. You just have to keep up on the latest security news and visit update.microsoft.com as soon as you hear about an out-of-band patch, rather than waiting for Automatic Updates to kick in.

Fake Antimalware Offers

Fraudulently advertised, ineffective antimalware ranks among the fastest-growing types of online scams. Online ads that simulate Windows alert messages tout products with names like DriveCleaner, WinFixer, Antivirus XP, and Antivirus 2009, warning you that your computer is infected with some sort of malware and advising you to buy the named product to fix it. Some purveyors of these sham utilities embed warning messages directly into the Windows desktop or pop up messages from a System Tray applet to convince you the problem is serious.

But these scareware tools only pretend to scan your computer for malware. They detect either innocuous, commonly used Registry keys or nonexistent (or planted) alien files. Even worse, many of the programs disable key components of Windows—such as the Registry editor or Task Manager—or deactivate options within the OS's Display Properties settings to prevent you from killing the programs or removing the alert messages. People are especially susceptible to these snake-oil packages because the sneaky sellers charge a seemingly reasonable fee (often \$40 a pop) for them.

(fix) A legitimate malware remover—one that independent testing has determined is effective—should be able to take care of the immediate problem of having an adware program that won't let you remove it. Check your security software to see if it will do the trick. But the real fix may be concerted government action: Late last year the Federal Trade Commission asked a federal court to stop some perpetrators of this type of scam. It may be that prison terms or massive fines are the only useful deterrents. ●



Antivirus apps are optional on Mac systems.



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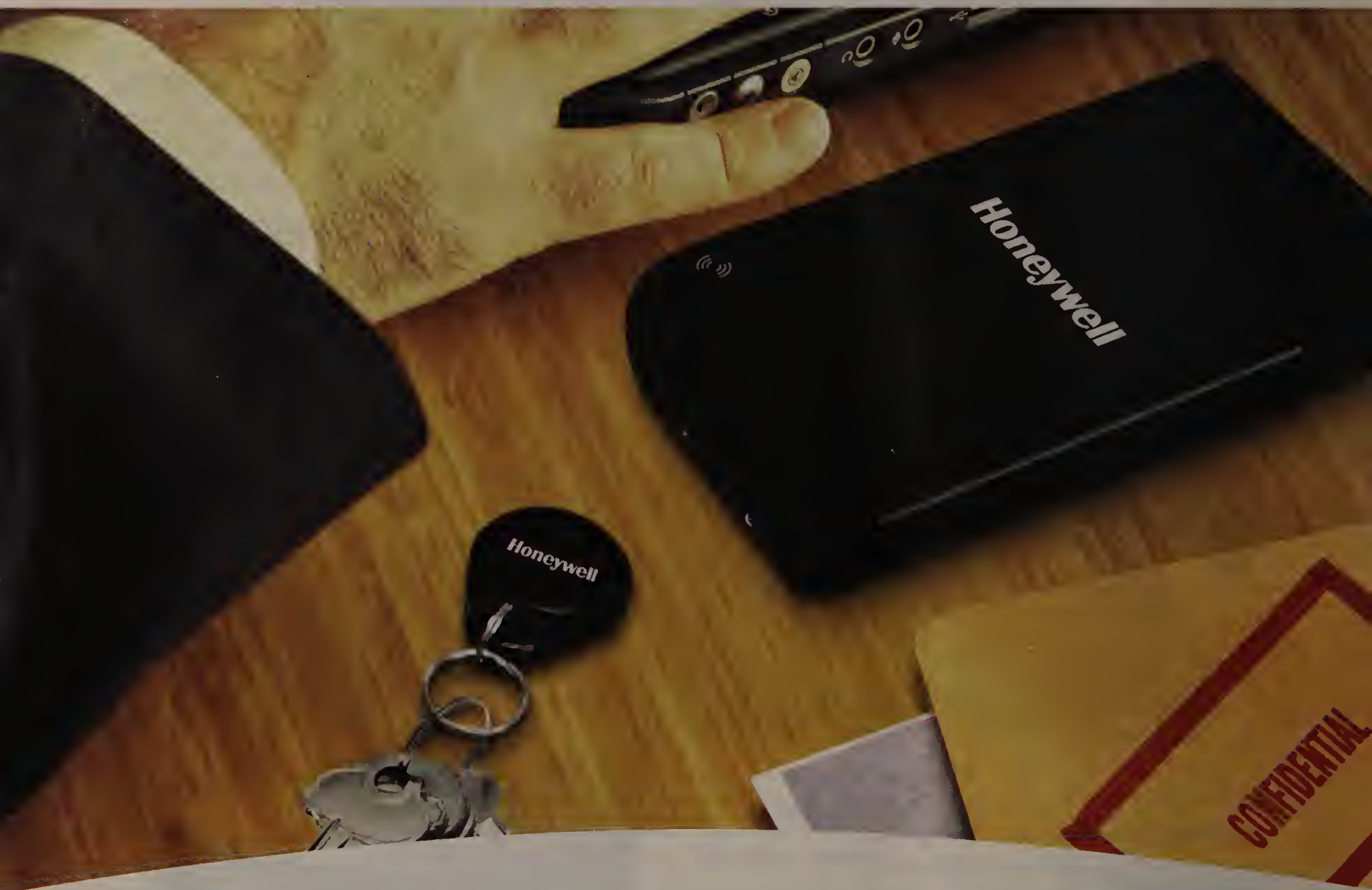
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Top

SECURITY SPECIAL REPORT

Internet Security Suites

Paying for Protection

The ever-increasing number and frequency of attacks on your PC make using security software more important than ever. Our tests of the latest all-in-one security suites show that good protection can shut down the nastiest viruses, spyware, adware, and phishing schemes. »

BY ERIK LARKIN

ILLUSTRATION BY BRIAN STAUFFER

In the early days of computer viruses, you could get by with careful surfing—and without antivirus protection. Now, crooks love nothing more than to discover a nasty zero-day security flaw for which there's no defense, and then to infiltrate otherwise benign and popular Web sites with hidden, malicious programming made to attack that security flaw. While relatively uncommon, such tactics can ensnare even the most cautious surfer. Like it or not, you need security tools.

PC World put nine comprehensive suites through the wringer. We poked and prodded, surfed and scanned until one of the contenders—Norton Internet Security 2009—came out on top.

Symantec's suite did a fine job, start-

Security Suites Compared: Norton Leads the Field									
SECURITY SUITE	PCW Rating	Performance score	Antivirus and antispysware detection				Adware detection	Malware cleanup	
			Detection of backdoors, bots, Trojan horses, and spyware	Heuristic detection with two-week-old signatures	Rootkit detection (active and inactive rootkits) ¹	Rootkit removal ¹	Detection of adware samples	Successful elimination of malware	
1 Symantec Norton Internet Security 2009 \$70 (\$50 renewal price) find.pcworld.com/62138	89 VERY GOOD	Superior	99%	48%	95%	100%	97%	80%	
2 BitDefender Internet Security 2009 \$40 (\$50 renewal price) find.pcworld.com/62139	87 VERY GOOD	Very Good	97%	55%	100%	100%	96%	70%	
3 Panda Internet Security 2009 \$50 (\$60 renewal price) find.pcworld.com/62141	84 VERY GOOD	Very Good	95%	45%	90%	100%	76%	55%	
4 McAfee Internet Security Suite 2009 \$60 (\$60 renewal price) find.pcworld.com/62140	82 VERY GOOD	Very Good	97%	49%	95%	100%	97%	55%	
5 Avira Premium Security Suite 8.2 \$54 (\$54 renewal price) find.pcworld.com/62143	82 VERY GOOD	Superior	99%	55%	100%	44%	100%	55%	
6 Kaspersky Internet Security 2009 \$80 (\$120 renewal price) find.pcworld.com/62144	81 VERY GOOD	Superior	96%	52%	85%	78%	98%	70%	
7 F-Secure Internet Security 2009 \$60 (\$46 renewal price) find.pcworld.com/62145	78 GOOD	Very Good	97%	54%	95%	89%	100%	65%	
8 Webroot Internet Security Essentials \$60 (\$50 renewal price) find.pcworld.com/62146	77 GOOD	Very Good	90%	40%	95%	100%	90%	55%	
9 Trend Micro Internet Security Pro 2009 \$70 (\$70 renewal price) find.pcworld.com/62147	74 GOOD	Good	69%	22%	95%	100%	68%	75%	

CHART NOTE: Prices and ratings are as of 12/24/08. FOOTNOTES: ¹Test conducted at default settings. ²Time to scan a 741MB file; lower is better.

ing with an overall malware-detection rate just shy of 99 percent. It sports an attractive and well-laid-out interface, and its automatic updates send new malware signatures to your PC every few minutes. Symantec has also incorporated cloud computing, with on-the-spot online checks to supplement local scans. Another feature compares a new

program on your PC against a database of known apps, a step meant to improve the suite's performance by preventing it from scanning safe programs.

Harnessing the immediacy of the Internet is a trend this year. The F-Secure, McAfee, and Panda packages all use online checks to attempt to detect new malware more quickly, without waiting

for a scheduled signature update.

Though Norton deserves its top spot, it isn't for everyone. Norton can't perform backups, for instance, but four other suites here can. Also, while Norton's detection rate is very good, it isn't the best: Avira's suite took top honors in identifying both known and unknown malware. What's more, at \$70 for three PCs, Norton is the second-costliest suite we tested; only Kaspersky's package costs more.

How We Tested the Suites

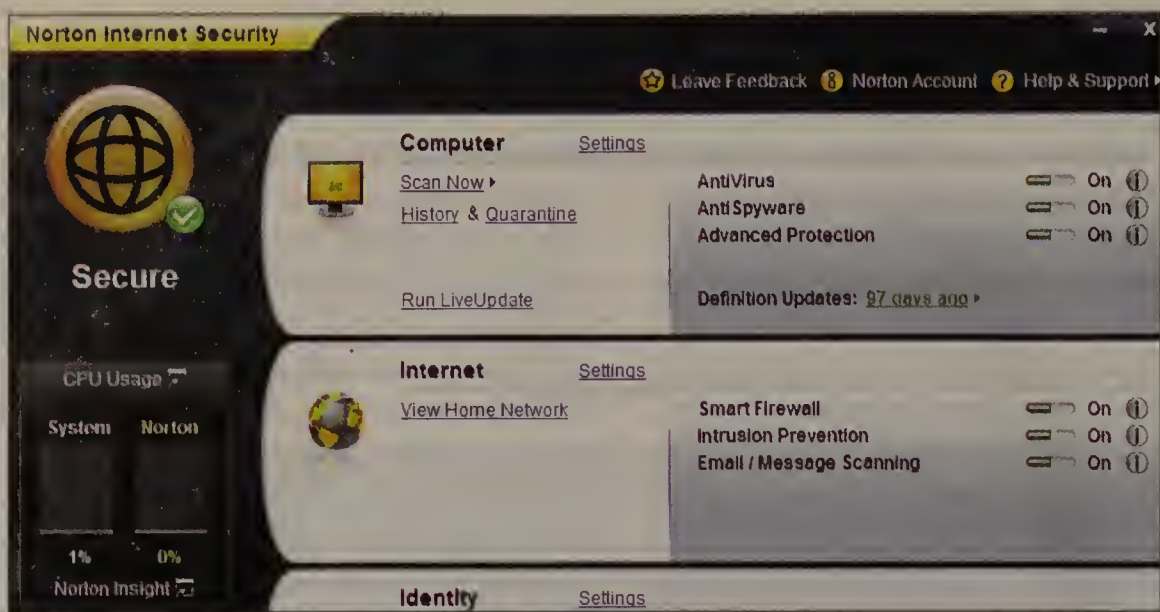
To evaluate the suites, *PC World* again partnered with AV-Test.org. This German group pitted each suite against its "zoo" of 654,914 backdoor apps, bots, worms, Trojan horses, and password stealers, as well as against 46,246 adware samples. Each suite was allowed to connect to the Internet to use online checks, where available. In addition to detection, tests determined each suite's ability to clean up malware infections.

Rootkit tests had each suite detect and remove active and inactive rootkits—stealth malware that hides criminal software on your PC. Heuristic and behavioral detection tests determined how well a suite could spot malware for which it didn't yet have a signature. The heuristic tests used two- and four-week-old signature files to simulate encounters with new malware, while the behavior tests examined how well a suite could flag malware solely by how it acted on a PC. AV-Test also assessed scan speed, both on demand (for scans kicked off manually or on a schedule) and on access (for scans of files as the PC opens or accesses them).

After AV-Test scrutinized the innards, we tested the design and interface. We determined how well each suite handled alerts and phishing-site blocks. We then looked at whether settings were at appropriate defaults, and whether advanced users could easily change them.

For security apps, however, performance and effectiveness outweigh design, so our scoring depended largely on each suite's malware detection >>

	Firewall		Scan speed ¹		Design score	Bottom line
	All ports closed ¹	All ports stealth ¹	On-demand (in seconds) ²	On-access (in seconds) ²		
	Yes	Yes	46	104	Superior	This strong security suite costs a little more than most alternatives, but it's easy to use and good at blocking malicious software.
	Yes	Yes	82	101	Good	BitDefender's suite gives you good protection for a great price, if you're willing to put up with a couple of interface annoyances.
	Yes	Yes	126	61	Very Good	The Panda security suite covers all the bases with its features, and it scans quickly, but in tests it lagged some rivals in malware detection.
	Yes	No	69	115	Very Good	Its mix of pluses (such as good detection rates) and minuses (such as slow scan speed) lands McAfee's offering in the middle of the pack.
	Yes	Yes	60	78	Good	Avira's suite is a good choice for more-technical users who want the best detection but don't need phone support or parental controls.
	Yes	No	47	82	Good	If Kaspersky wants to charge the highest price, the suite should have the best protection and a smooth, intuitive interface. It doesn't.
	Yes	Yes	83	163	Very Good	F-Secure's package provides decent detection and a clear, informative interface, but other suites offer stronger protection.
	Yes	Yes	69	94	Good	Webroot's first foray into security suites needs some work—and better malware detection—before it becomes worthy of consideration.
	Yes	Yes	63	94	Very Good	Trend Micro's latest security suite fails at the most basic task of detecting and blocking malicious software. Not recommended.



and disinfection rates, plus the scan speed. We also considered price, support, and features in the final rankings.

(1) Symantec Norton Internet Security 2009

Symantec Norton Internet Security 2009 (\$70 for three users) came in as the clear winner. It wasn't tops in every tested category, and it is pricey. But if you're seeking a solid product to protect your PC, Norton is a great option.

In AV-Test.org's malware-detection tests, Norton did very well, identifying 98.9 percent of the samples. The suite took top honors in eliminating malware. It got rid of 80 percent of the files and Registry changes, though it failed to scrub all the files from two out of ten infections. It was similarly strong in detecting and removing rootkits, cleaning away all nine active rootkits.

For adware, Norton was average with a 96.8 percent detection rate. But it didn't produce any false positives (misidentifying safe software as harmful).

In heuristic tests with two-week-old signature files, it tagged just 48.2 percent of samples. The new "pulse" updates, which send malware signatures to the program every 5 to 15 minutes, could help offset that lackluster performance; Symantec responds quickly to new widespread attacks, typically in less than 2 hours, according to AV-Test.

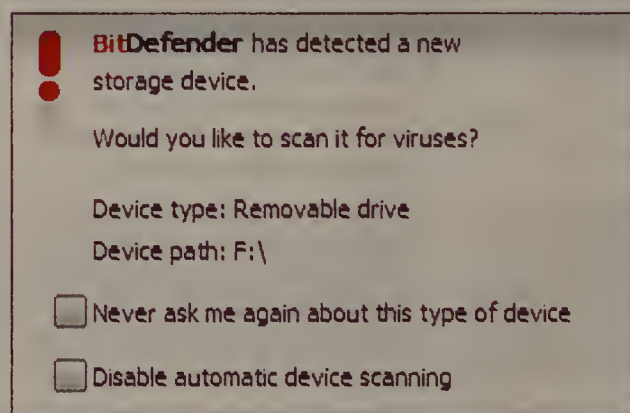
The new Norton Insight feature uses Internet elements to identify trusted apps, which Symantec says can help scan speed. This suite was the fastest at on-demand scans, but the sixth fastest at the more-important on-access checks.

The antispam feature adds a toolbar to Outlook and Outlook Express, and the firewall will automatically allow known, trusted apps to access the Net. The wireless-security feature correctly warned about a test network that used no encryption.

To use the parental controls and privacy features, you must download a free add-on. Then you can assign access profiles to Windows user accounts, or define types of information your PC shouldn't send without authorization.

While the default settings and interface are largely well done, in our testing

Symantec Norton Internet Security 2009 proved to be the best suite overall.



Norton turned off Firefox's antiphishing protection without any warning. Symantec says the move is meant to prevent duplicate alerts. Other suites left Firefox's feature on in addition to their own, however, and keeping both means you have two opportunities to catch and block a phishing site.

In spite of all its strengths, Norton lacks a backup capability, and it can't

BitDefender Internet Security 2009 can scan removable storage devices.

scan for missing application or Windows patches—a function that's fairly common among its competitors.

(2) BitDefender Internet Security 2009

BitDefender Internet Security 2009 finished in second place. Its low cost gave it a boost (at \$40 for one user, it's the least expensive suite here), as did its strong showing in heuristic tests. But while BitDefender fixed some annoyances that marred the previous version, this edition still has some rough edges.

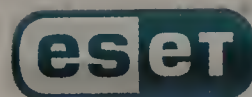
In detecting malware, BitDefender performed reasonably well, catching 97.3 percent of AV-Test.org's collection. It did a nice job in proactive tests that use two-week-old signature files, spotting 55 percent of the samples.

The suite tossed out only one false-positive warning, and it found and removed all active and inactive rootkits. It also cleaned well, eliminating all of the files for every infection but one. For half the infections, though, it left some Registry changes in place (these are less likely to hurt when not cleaned up, however), and scan speed was average.

This version introduces some helpful features. After installation it warned that our test laptop was on an unencrypted wireless network. It can also recognize when you plug in removable storage, and it will ask whether to scan the device.

Although the firewall refrains from bugging you about allowing some trusted apps to go online, we saw a warning for the lesser-known FileZilla FTP tool. Also, an apparent bug caused the Windows Security Center to declare the suite out-of-date, despite its updating 40 minutes prior; a reboot cleared the false alarm.

A vulnerability scanner can identify missing Windows or app patches, but BitDefender appears not to update its version list as quickly as it should. The tool reported the correct installed Firefox version, 3.0.4, but said that the >>



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latest version available was 3.0.1. We likely wouldn't have been notified if we had had an outdated browser.

The parental-control feature lets you restrict access to Web sites and programs, and it can watch for keywords in Web pages and e-mail or deny IM chats with particular contacts. When we tried to download Zango adware, the parental-control feature prevented the action but didn't indicate that it was doing so. When we turned the parental controls off, the suite's regular file protection blocked the download from saving—and it displayed the expected pop-up.

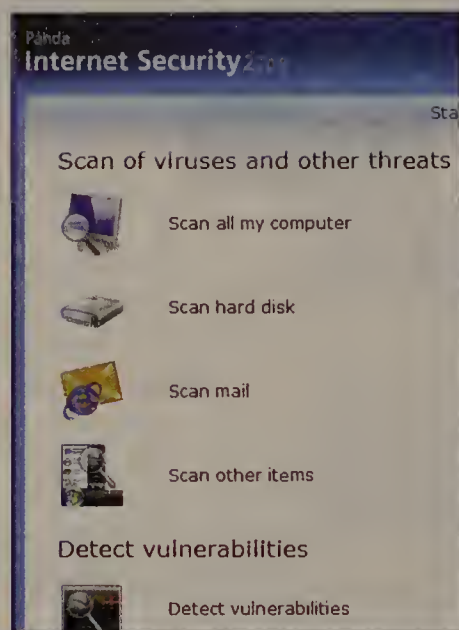
(3) Panda Internet Security 2009

At \$50 for one license, Panda Internet Security 2009 has a roughly average cost. It detected about 95 percent of the malware in AV-Test.org's library, ranking seventh out of the group of nine. The suite attained the same disappointing rank for its 45.3 percent detection rate in heuristic tests that use two-week-old signature files.

Panda's suite had problems with spyware made for banking-info and password theft, stopping just 69 percent of those particularly harmful varieties. It did a bit better in behavioral detection, catching 8 out of 15 malware samples.

An Internet-based addition, Collective Intelligence, sends a hash, or signature, of a to-be-scanned file, along with info about its behavior, to Panda servers. By comparing the signature against an online database, the feature attempts to bolster the suite's scanning and to ramp up its ability to flag new malware.

The suite clocked in with the best on-access scanning speed, though it was the slowest for scans kicked off manually or according to a schedule.



Panda Internet Security 2009 has the widest array of extra features.

(you can't schedule it), and the overall security-status report won't change even if you're missing a critical patch.

With the parental-control feature, you make a log-in and password—distinct from those for Windows accounts—for each person. Each log-in has a profile that defines site restrictions.

The backup feature can work by file type or by selected folders or drives. It's easy to set up, but you can sched-

Offering parental controls, backup, antispam, and anti-phishing, Panda's suite also has a vulnerability scanner that can check for missing patches. Though some of the extras could use polish, this suite was the only one of the group with all of them. The vulnerability scanner is especially welcome, but you will need to launch the scan manually

to steal passwords and financial details.

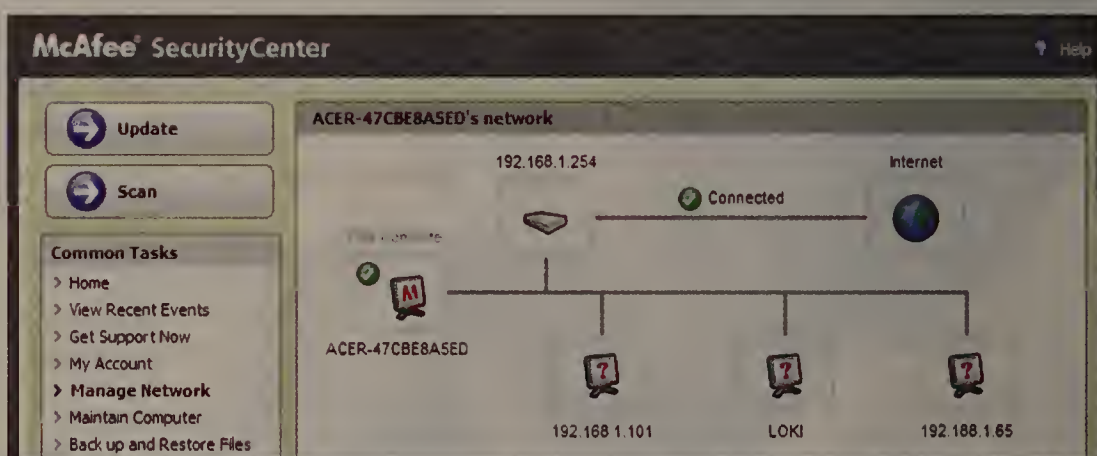
Artemis, a new Internet-based detection feature, sends a signature of to-be-scanned files to McAfee servers, which then compare the files against a database. The feature likely contributed to the McAfee suite's decent showing.

In contrast, this suite's performance in behavioral tests was dismal: It warned about some aspect of malware behavior only 13 percent of the time. All of the other suites but one (F-Secure, at 33 percent) issued a behavior-based warning at least half the time. McAfee's suite also failed speed tests, placing second to last for on-access scans. It did better in on-demand speed, finishing in fifth.

The interface organizes features intuitively. But if you click the help link while viewing the network map, say, you won't see the relevant section; you have to hunt for the help you need.

That said, McAfee does offer some convenient touches. On the network map, you can click the router's icon to open its configuration

McAfee Internet Security Suite 2009 offers a useful and informative network map.



ule a daily backup only to another hard drive or to a CD or DVD. The antispam option adds a toolbar and spam folder to Outlook and Outlook Express.

(4) McAfee Internet Security Suite 2009

McAfee Internet Security Suite 2009 (\$60 for three users) tagged 97.4 percent of the malware in AV-Test's "zoo," though it lagged with a 90 percent success rate on spyware specifically made

page in your browser. McAfee's suite is the only one of the group to offer this minor but well-conceived feature.

Less well designed is McAfee's handling of a common adware file. When we tried downloading a Zango screen saver, the suite correctly displayed a warning, but the only remediation option was to remove the program. Electing to do so brought up a McAfee uninstaller, which failed since the Zango app was not actually installed. >>

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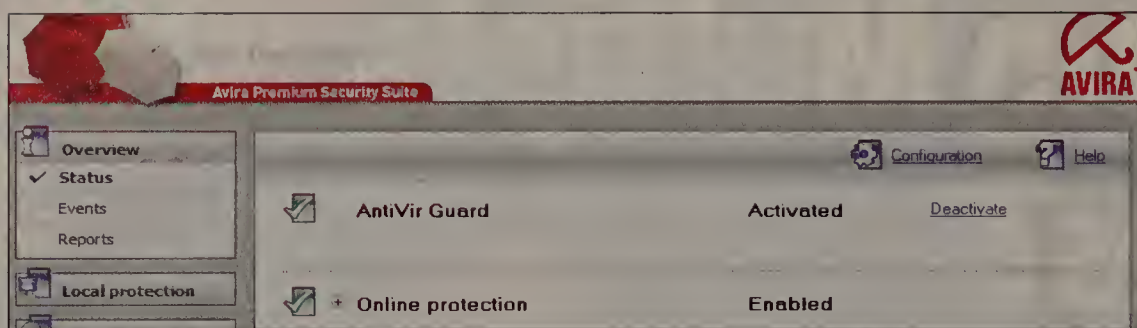
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Other features include backups, parental controls, and antispam, plus smaller tools such as a file shredder.

(5) Avira Premium Security Suite 8.2

Avira Premium Security Suite 8.2 (\$54 for one user) beat all rivals in detection, spotting 99.2 percent of AV-Test's malware. In catching adware, it was an even better enforcer, tagging 99.6 percent. The sweep continued in heuristic tests with two-week-old signature files, where it caught 55.3 percent of the samples.

It identified all active and inactive rootkits, too. But in a surprising about-face, it cleaned up only four out of nine active rootkits, a last-place finish.

The scan speed was good, putting Avira's suite in second behind Panda's for on-access scans and nabbing a third-place finish in on-demand scans.

The interface needs polish. Techies will recognize terms, but typical users might not. Plus, the interface divides settings into a basic view and an expert mode. The former hides a lot of settings; to access the antispam settings, for example, you must enter expert mode. The antispam feature also stands out as the only one tested that doesn't add a toolbar to any e-mail program.

The backup feature is decent. You can choose one or more directories or drives, pick a destination, and schedule it to work daily, weekly, or whenever you insert a specific USB storage device.

Though the suite has good help files and pop-ups are clear, if you have a complex question, you must send an e-mail; the German company offers no U.S. phone support.

Avira Premium Security Suite 8.2 was tops in catching malware.

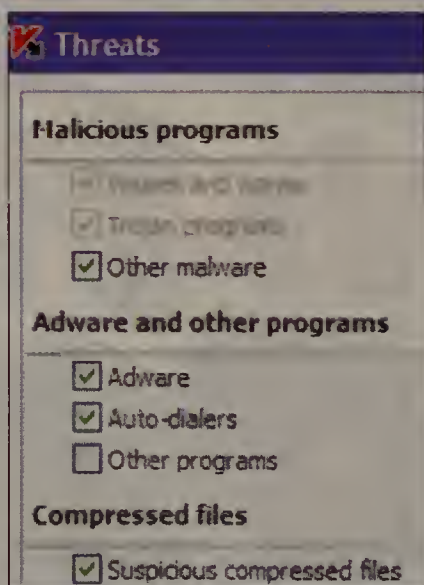
(6) Kaspersky Internet Security 2009

Kaspersky Internet Security 2009 is the priciest suite here (\$80 for three users). That cost might be justified if it delivered top performance and a smooth user experience—but it doesn't.

The suite picked out 95.6 percent of AV-Test.org's malware. It did better in heuristic tests that used two-week-old signature files (with a 52 percent success rate), and in a test of its ability to warn about an infection based on the malware's behavior (60 percent).

Kaspersky says it rewrote its anti-virus engine this year to boost scan speed, but Avira and Panda beat it in on-access scans, and only Norton topped Kaspersky for on-demand scans.

For adware, this Russian-made suite had a 98.1 percent detection rate—a third-place finish. But to get that kind of performance, you may have to tweak the settings.



Kaspersky Internet Security 2009 stops adware decently—if you tweak its settings.

In our tests using default settings, this was the only suite that did nothing when we tried downloading a Zango adware screen saver. After asking Kaspersky, we found that to block it we'd have to enable checking for 'other' adware, which isn't on by default. But it should be.

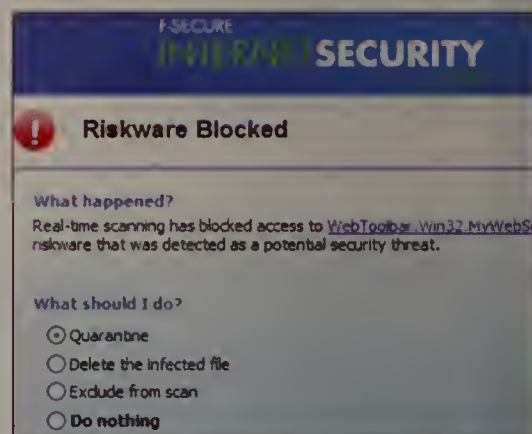
When you enable parental controls, it sets every Windows user account to the 'child' filter by default. Figuring out how to change that isn't intuitive.

We give Kaspersky credit for trying to use data from Secunia, a partner security company, to identify unsafe system settings, plus software and OS patches whose absence can create big security holes. But the suite's unintuitive Security Analyzer will leave you scratching your head with its recommendations.

The suite has an antispam feature that integrates with several e-mail programs. It has no backup options, however.

(7) F-Secure Internet Security 2009

F-Secure Internet Security 2009 (\$60 for three users) has multiple scanning engines: its own, plus two others licensed from Kaspersky and Norman. The DeepGuard 2.0 feature sends a sig-



nature for suspected malware to F-Secure servers, where it's scanned against a database of known bad actors.

Unfortunately those features don't translate into an especially good malware detection rate. F-Secure's suite identified 96.6 percent of AV-Test.org's zoo of nasties, a fifth-place result.

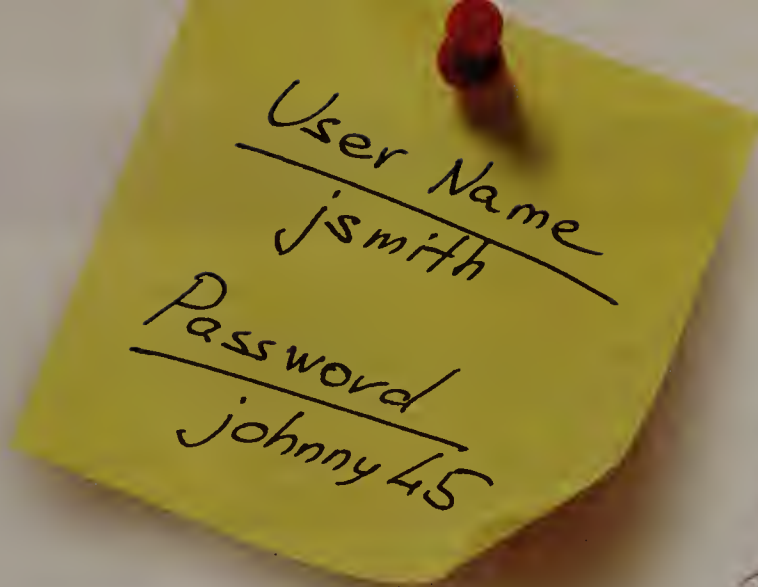
The suite did well with adware, as its 99.5 percent detection rate was second-best in that test. In heuristic tests with two-week-old signature files, its rate of 54.1 percent ranked third. But it caught malware based solely on the invader's behavior only a third of the time. >>

F-Secure Internet Security 2009 gives clear, descriptive pop-up alerts.



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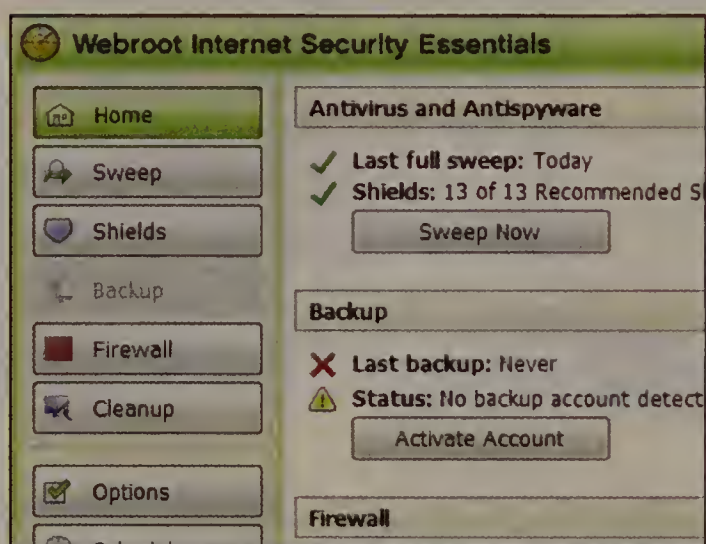


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It was by far the slowest for on-access scan speed; results were a little better for on-demand speed. It was likewise poky in quarantining malware, taking several minutes (during which time the suite checks for any additional, related files, the company says).

The pop-up displayed before the program takes quarantine action is clear and informative. The overall interface is well laid-out and easy to use, too.

F-Secure's parental controls work a bit differently. Instead of assigning a profile to each Windows user account, you create a password for each profile so that any profile is accessible within any Windows account. Anyone opening a browser starts on the 'small child' profile. Entering the 'teenager' or 'parent' password switches to that profile.



The antispam feature adds a button to Outlook Express, Outlook, and Windows Mail that permits allowing or filtering senders, but it has no option to label a specific message as spam. Missing are an integrated system-backup function and the ability to block known phishing pages as you surf.

(8) Webroot Internet Security Essentials

Webroot Internet Security Essentials (\$60 for three users) marks the antispyware company's first foray into security suites. It consists of a Sophos antivirus

Webroot Internet Security Essentials contains components licensed from several vendors.

scanner, a Privacyware firewall, and online backup using Webroot's own servers. But it lacks parental controls, antispam, and browser-based antiphishing capabilities, and it struggled with the core task of identifying malware.

In AV-Test.org tests, it identified only 89.56 percent of the malware "zoo." It likewise disappointed in heuristic tests using two-week-old signature files, with a detection rate of just 39.8 percent.

The suite did a good job identifying and removing dormant and active rootkits, and it missed only one active rootkit. But surprisingly it lagged at identifying adware, tagging only 90.4 percent of the junk. The licensed firewall uses an old-school approach: It starts out in a training mode for seven days, after which it will prompt you on any new software it notices.

Webroot's backup feature offers 2GB of free online storage, but we weren't able to create an account and test it because of Webroot server problems. The suite also had difficulty keeping Windows Security Center notified; we twice got false alerts about the absence of a firewall and the suite's being out-of-date. One of the firewall false alarms persisted until we rebooted.

While the interface looks good and has a clear presentation, some aspects need tweaking. For one thing, locating activity logs is a challenge—and you may go searching for those logs to learn the file names and locations of quarantined items, since alert pop-ups list neither.



Trend Micro Internet Security Pro 2009 offers good, plain-English feature descriptions.

(9) Trend Micro Internet Security Pro 2009

Trend Micro Internet Security Pro 2009 (\$70 for three users) fails at any security suite's most important task: Identifying malware before it can attack your PC. The suite's dismal 69.3 percent detection rate was 20 percentage points behind the next worst score. It let three out of every ten pieces of AV-Test's malicious

software go by untouched.

It likewise fell flat in heuristic tests using two-week-old signature files, as well as in catching annoying adware, ranking dead last in both categories.

The company says it emphasizes proactive protection that tries to block threats before they can install malware. Trend Micro uses its own Web crawlers, download tests, and user reports to maintain a database of malicious Web sites, and will block those sites from loading on your PC. It's a valid approach—one that could supplement scanning for malware—but it can't yet replace that core detection task.

Trend Micro's package did shine in cleaning up, removing all the files from nine out of ten infections. It was almost as good in dealing with Registry changes, placing second in that test.

Interesting features include a scan for missing Windows patches (assigning a risk level for each one). You'll also get a useful Wi-Fi advisor button in a browser toolbar that can warn you if your wireless network lacks encryption—a smart tool placed in a good location.

Trend Micro also did well with its interface, and clearly took time to provide good descriptions for features and options. Right away we noticed the use of plain English throughout the suite.

But the company went too far with its desire to simplify, as we saw no alerts when it blocked our attempted Zango-adware download. You can change the defaults to display warnings about malware, but you shouldn't have to. ●

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I'm Todd Davis, CEO of LifeLock, and 457-55-5462 is my real Social Security number.

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*Todd Davis,
CEO of LifeLock*

The Gear of the Year

Forget boring tech:

Here are some of the most innovative, interesting products we've seen (or are waiting to see) this year.

BY DAN TYNAN

PHOTOGRAPH BY MARC SIMON



Innovation: The Linksys by Cisco Wireless Home Audio represents the future of home entertainment.

Innovation: The Telenav Shotgun doesn't just navigate. Get instant reviews of places it suggests.

Innovation: SanDisk's inexpensive Sansa SlotRadio music player is tiny and trendsetting.

Thousands of new electronic gizmos debut every year, but few of them are truly innovative. Even fewer have the capacity to alter the way you work or live. Not so with this group of 20 gadgets. Some are available now; others won't appear until later in the year. All are game changers in one way or another. >>

Innovation: No more wires! The Gefen Wireless for HDMI Extender will instantly declutter your space.

Innovation: The HP Mini 1000 netbook promises sleek fashion and double happiness (the symbol on the key) to its owner.

HP Mini 1000 Netbook

In this year of the netbook, few will be as stylish as Sony's 1.5-pound VAIO P or HP's Vivienne Tam-designed Mini 1000 (right), with designer handbag looks—and a price tag to match (\$700). Basic black versions running XP Home or HP's own Mobile Internet (Mi) interface built on top of Ubuntu Linux start at \$360. All three 2.5-pound base models feature surprisingly spacious keyboards, 9-inch screens, and up to 16GB of solid-state storage or 60GB hard drives. One option lets you access high-speed 3G wireless networks.



Available: Now; \$360+



Available: First quarter;
\$500 to \$600

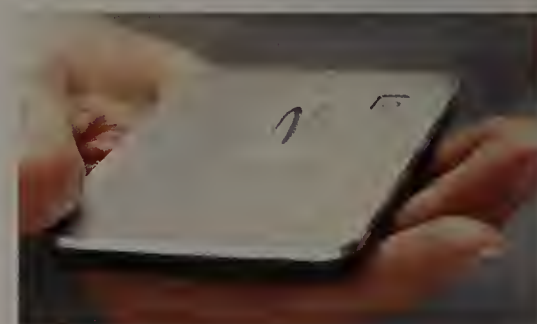
HTC s743 Handset

Is even a netbook too hefty for your high-flying lifestyle? Try this Windows Mobile smart phone on for size. HTC's s743 packs more features into its slim 4.6-by-1.7-inch frame than most full-size notebooks offer. In fact, you get two of nearly everything. Two keyboards, for instance: a 12-key pad for making calls and a slide-out QWERTY unit for two-handed texting. And two cameras: a 3.2-megapixel CCD for still images plus one with VGA resolution for video calls. Also, the s743's Wi-Fi and 3G antennas give you two ways to connect.

Novatel Wireless MiFi

Why hunt for a hotspot when you can carry one in your pocket? Novatel's slender, cigarette-case-size MiFi lets you build a portable Wi-Fi network around a high-speed 3G cellular connection. You can share a single mobile broadband account between multiple users and/or devices, whether you're at home, in a hotel room, or in some dark region of the world where even a Starbucks hotspot can't be found. (You will, however, have to supply your own lattes.) Available for EvDO Rev A and HSPA (GSM) networks from selected wireless carriers, as yet unannounced.

Available: By midyear; \$200+



Linksys by Cisco Wireless Home Audio

Move over Sonos. Linksys by Cisco enters the Wi-Fi hi-fi business with its Wireless Home Audio system, which lets you distribute high-quality music in two rooms for less than \$1000. It uses your existing 802.11n network to transfer the music, whether you're using the Conductor (a stand-alone player with a CD slot and built-in speakers), the Director (a 50-watt amp that connects your speakers), or the Player (which streams digital music to an existing stereo). The Controller (shown here) lets you pick which music you want to hear in what room.



Available: First quarter; \$1000+ (for Director, Player, Controller, and two remotes)

Ipevo Kaleido R7

More than just another pretty picture holder, Ipevo's Wi-Fi-enabled 7-inch digital frame displays Flickr photo streams, blogs, and other Web sites via a built-in RSS feed reader. Install Ipevo's EyeStage software on your iPhone or your Windows Smart Phone, and you can snap pix with your cell and beam them directly to the frame. Buttons on the bottom let you choose the source of photos and launch them in your PC's browser. Flip the screen 90 degrees to view images in landscape or portrait mode. Use a USB cable to add pictures to its 512MB of internal memory or plug in the usual variety of memory cards. Or just place it on the shelf with the power switched off; it looks good all by itself.

Available:
March; \$199



Microvision Show WX

Tired of squinting at videos on a tiny handset? Connect your phone or laptop to Microvision's pocket-

Available:
Second half of the year; \$300 to \$500

size projector to display photos, movies, and more on the wall—at image widths of 6 to 100 inches. Roughly 4.5 inches by 2 inches and just 0.5 inch thick, the Show WX is a fraction of the size of most business projectors, yet it can project DVD-quality images in wide-screen format. Road warriors can take their dog-and-pony shows anywhere—without feeling like a pack mule. Still just a prototype, but expected to go into production this spring.

Location-Based Technologies PocketFinder

Locate your luggage, your pets, and/or people anywhere on the planet with these cookie-size GPS devices. Just hook one to your cat's collar, a suitcase, or your child's keychain; then log on to the Web or dial a number to find out where they are, within 30 feet of their location. The PocketFinder can tell you how fast your leadfoot teenagers are driving and send you a text message when they enter or leave pre-designated areas (like the school library or the mall). Batteries run for 7 days on a single charge, and you get a text message when the juice is running low.



Available: March; \$129, plus \$13 a month for locator service

SanDisk Sansa SlotRadio

Why pay 99 cents a track for music when you can get the player and 1000 songs for \$100? The 1.5-inch-square SlotRadio takes fingernail-size, high-capacity memory cards; the base model ships with a card that contains 1000 songs handpicked from *Billboard* charts in six genres (alternative, country, urban), or grouped by theme ("chillout" or "workout"). Additional 1000-song slot cards will be available later this year for \$40 apiece. The catch? Someone else picks the songs, not you. But with artists like

Keith Urban, The Killers, and U2 on the bill, there is sure to be something for everyone. The device's touch screen and side buttons enable you to jump between genres and skip songs you don't like; or you can tune in the built-in FM radio.

Available: Early this year; \$100



Silicon Mountain Allio High-Definition LCD TV

It's like having a big-box store in a single box. Silicon Mountain's Allio combines a big-screen HDTV with a Blu-ray/DVD player, an integrated DVR, and a Vista PC. The flagship 42-inch model features an Intel Core 2 Duo E8400 processor, 4GB of memory, a terabyte of storage, a wireless keyboard, and 64-bit Windows Vista Home Premium for around \$2800. A 32-inch LCD set with less hefty specs starts at \$1699. Picture-in-picture and split-screen features allow you to integrate Internet content with broadcasts and disc-based entertainment, so you can watch NFL games while scanning stats at NFL.com, or keep up with a game while you watch a Blu-ray disc.

Available:
First quarter;
\$1699 to \$2799



Olympus Stylus Tough-8000

Available: February;
\$400

This ruggedized 12-megapixel camera takes a licking and keeps on clicking. Go ahead: Knock it off the table, or sit on it. The T-8000 can withstand 6-foot drops and 220 pounds of pressure. Accidentally drop it in the drink? No sweat. The T-8000's interior rubber gaskets seal out seawater down to 33 feet, while its water-repellent coating keeps droplets from forming on the lens. Take it snowboarding—the T-8000 operates at temperatures as low as 14 degrees Fahrenheit. Even if your hands are shaking from the cold, your photos won't show it, thanks to the camera's dual image stabilization.

Gefen Wireless for HDMI Extender

For years vendors have been promising (but not delivering) wireless high-definition streaming. Now Gefen has finally cut the cord. Its HDMI Extender uses ultrawide-band (UWB) technology to beam 1080p HD video and 7.1 surround sound audio from any HDMI device to high-def displays up to 30 feet away—without interference from Wi-Fi, cordless phones, or other wireless signals. No need to run cables behind the walls or to squeeze your DVR, Blu-ray player, PlayStation 3, or Xbox 360 into an overcrowded component console. And if you want to move your player or screen, you won't have to tear it all out and start from scratch.

Available: Now; \$999

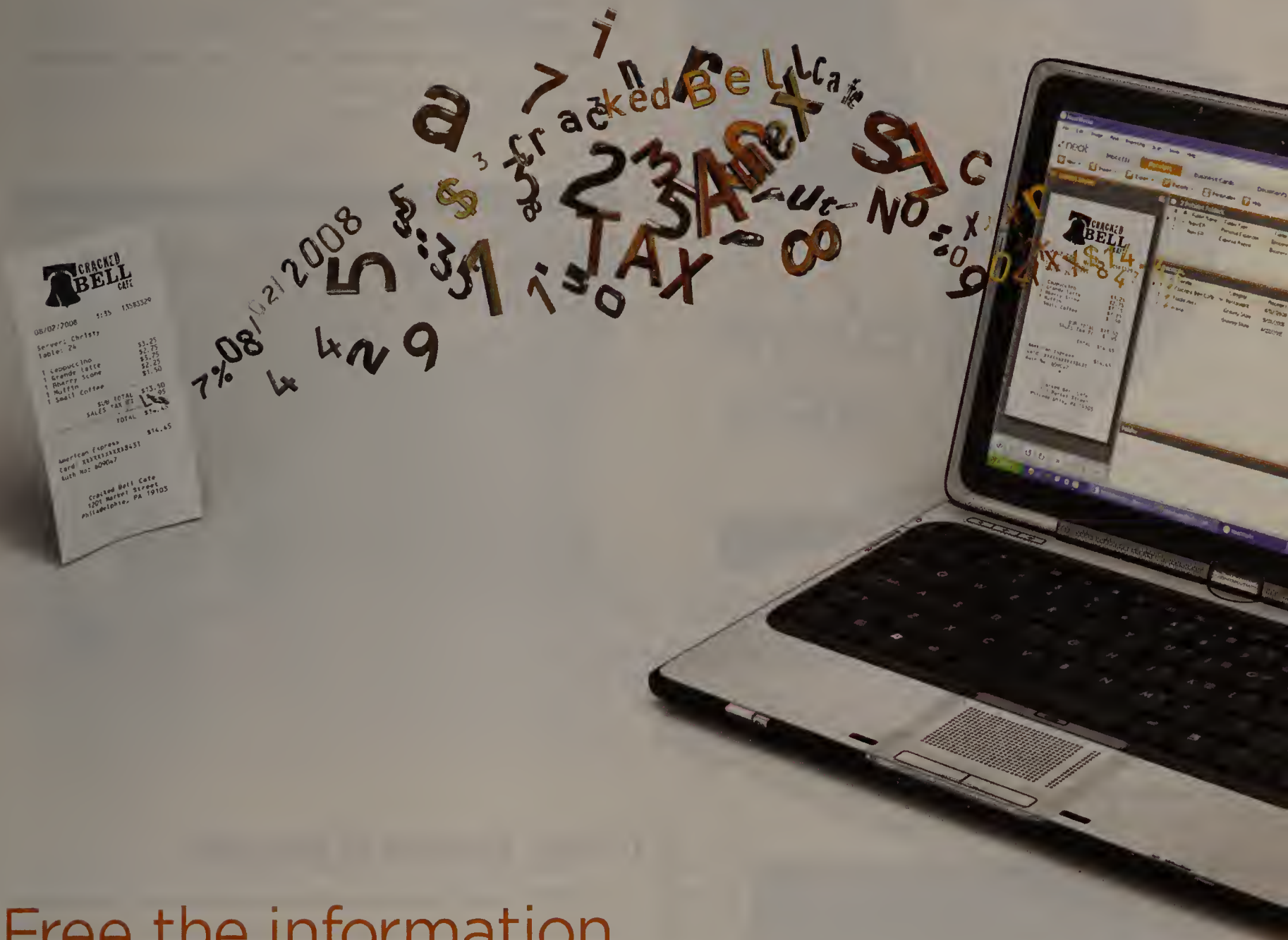


Innergie mCube90G

Tired of schlepping separate AC adapters for each cell phone, media player, camera, laptop, and every other portable gizmo you own? So are we. That's the reason we're so excited about the Innergie mCube 90g, which promises to be the first one-plug-fits-all solution for gadgets. The mCube converts electricity from wall outlets (65 to 240 volts) to the DC power your

Available: Second quarter;
under \$100 (estimated)

device requires. It even adapts to DC power sources such as those in cars and commercial airliners. The caveat? Devices must support the Greentalk protocol; at launch, qualifying products will include some HP TouchSmart PCs, NEC laptops, Panasonic cordless phones, Ricoh cameras, Canon printers, iPods, and iPhones. Could be more, but a good start. >>



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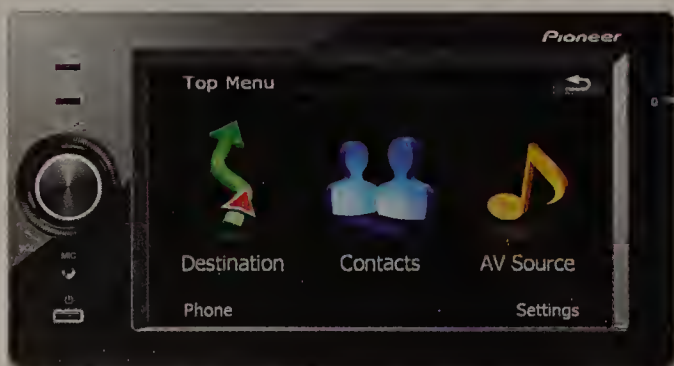
Psyko 5.1 Gaming Headset

In online games, sometimes the only difference between nailing a perfect kill shot and being a stain on the pavement is a few milliseconds of latency. Psyko claims that its gaming headset delivers “instant positional awareness,” so you can hear your opponent’s movements moments before he or she hears yours. The secret? The company’s proprietary psychoacoustic technology simulates 5.1 surround sound without the use of digital signal processors, reducing delays to almost nothing and permitting real-time game play. So go ahead, kill or be killed—it’s up to you.

Available:
First quarter;
\$299

Pioneer AVIC F500BT

It’s not the destination; it’s how you get there that counts. Pioneer’s first dash-mounted navigation and entertainment system gets you there in style—without your having to rip out your factory-



Available: installed stereo. Just connect it to your car radio’s auxiliary port; the F500BT gives you voice control over your cell phone and an Apple iPod via Bluetooth connections. A 5.8-inch touch-panel display offers big, easy-to-read maps, along with turn-by-turn directions and all of the other things you expect from a world-class GPS device.

Iogear Wireless USB Audio/Video Kit

Looking for an easy way to watch YouTube on the boob tube? Iogear’s Wireless USB Audio/Video Kit lets you transmit the wealth of media content stored on your PC’s hard drive—or pulled from the Net—to any display located up to 30 feet away. Connect the Wireless USB Host to your PC, and the audio and VGA adapters to your display; it will transmit stereo sound and HD images up to 720p. Now you can listen to Pandora and watch Hulu without having to strap your laptop to the idiot box.



Available:
March; \$350

D-Link Xtreme N DIR-685

Is it a Wi-Fi router, a network-attached storage device, or a digital photo frame? It’s all three at once, and a lot more. D-Link throws everything but the kitchen sink into its next-generation 802.11n router. Plug a 2.5-inch drive into the DIR-685’s open slot, and it’s a NAS device that lets you access files from anywhere on your home network or on the Internet, thanks to D-Link’s FTP server software. Plug a printer or a hard drive into one of its USB ports, and you can share that device across your home network. The

3.2-inch LCD doubles as a status gauge and as a digital photo frame that supports Framechannel, so you can display RSS feeds, weather or news headlines, or online photos from services like Flickr and Picasa.



Available: First quarter;
price to be determined



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Now with FTP!



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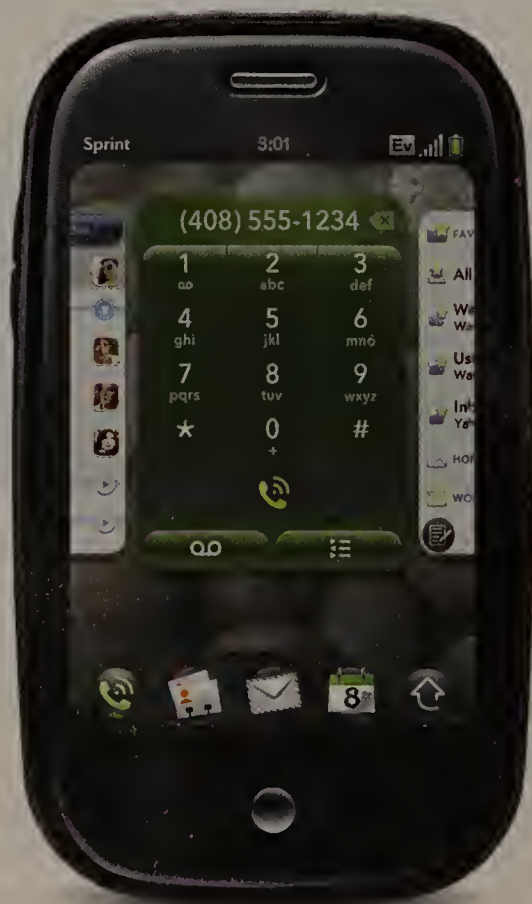
Acoustic Research ARW51

Despite the hype about surround-sound home theater, most people never connect all five (or more) speakers because they don't want to run wires all over the room.

Acoustic Research's modular wireless speaker conversion system fixes that. Connect the ARW51's transmitter to your A/V receiver and wireless receivers to each speaker and subwoofer, and then place them wherever you want; a 60-watt digital amp in each receiver gives

plenty of audio oomph. The transmitter's circuitry avoids interference from other devices.

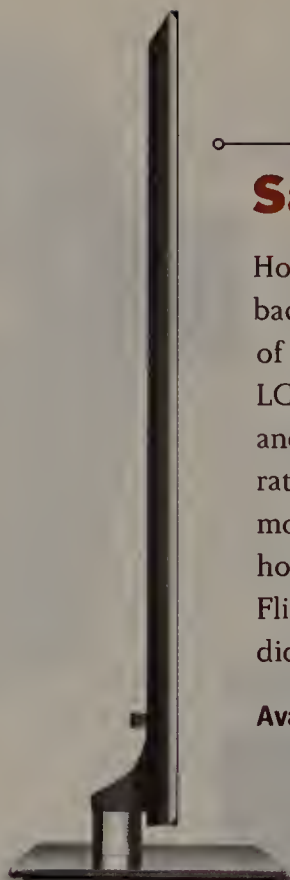
Available: First quarter; \$599



Samsung 8000 Series LCD

How green is your TV? Because they use low-power LEDs for backlighting instead of fluorescent lamps, models in this line of Samsung HDTVs use 40 percent less energy than equivalent LCD sets. LEDs also offer greater contrast ratio, deeper blacks, and crisper colors. The 8000 series adds a 240-MHz refresh rate—four times the rate of standard LCDs—for blur-free fast-motion scenes. An ethernet port lets you hook the set to your home network and access content from Yahoo, YouTube, or Flickr (selected via widgets at the bottom of the screen). And did we mention that it's barely more than an inch thick?

Available: First half of the year; pricing to be determined



Telenav Shotgun

This two-way GPS device is for strangers in strange lands—or at least business travelers in unfamiliar cities. Using the Telenav Connected Service, you can track how many miles you've driven merely by clicking the Start Capture button, assign the mileage to a client or project, and then download reports from the My Telenav site in Excel or PDF format, making expense reporting a snap. A browser plug-in lets you grab addresses off the Web and send them to the device. The service also displays the cheapest local gas prices and reviews of local restaurants and hotels, and lets you rate the businesses yourself.

Available: Now; \$299 plus \$10 to \$12 a month



Palm Pre

The Palm Pre smart phone—which will mark the long-awaited debut of the new Palm operating system called WebOS—emerged as one of the most talked-about items unveiled at January's 2009 Consumer Electronics Show in Las Vegas. Slick looking, with an ergonomic curved body, a slide-out vertical QWERTY keyboard, and a multitouch screen, the Pre (which will roll out first on Sprint's EvDO network) could pose a major threat to both the iPhone and T-Mobile's G1 (which is based on Google's Android OS). Palm's WebOS can handle full multitasking—something that the iPhone can't do—

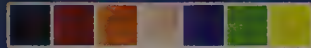
Available: By midyear; price not set

and the Pre can save pages for offline viewing on the Webkit-based browser, another feature that competing smart phones lack. ●

Cyberpower recommends Windows Vista™ Home Premium



\$1269



GAMER XPLOER X7-7700

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 - Intel® Core™2 Duo Processor
 - Intel® WiFi Link 5300 802.11 A/G/N
 - Intel® PM45 Chipset
- Genuine Windows Vista™ Home Premium
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- 320 GB SATA150 Hard Drive
- 17" WXGA+ TFT Display 1600 X 1050
- 8x DVD+-RW Drive
- 1000/100/10 Network Card & 56K V.92 Modem
- NVIDIA® GeForce® Go 9800 GT 512MB
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- 1 PCMCIA Type II Slot
- 3 Hours Battery Life
- Weight only 7.6 Lbs

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P9500 2.53Ghz	\$1429
T9400 2.53Ghz	\$1385
(3MB L2 Cache, 1066Mhz FSB)	
P8600 2.40Ghz	\$1309
P8400 2.26Ghz	\$1269



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Here's How

Secure Your Vista PC With 10 Easy Tweaks

You don't have to invest in an expensive security suite to lock down Windows Vista on your PC. Here's how to protect your computer using free software and a few simple adjustments.

BY ROBERT VAMOSI

WINDOWS VISTA may be Microsoft's most secure operating system ever, but it's a far cry from being completely secure. In its fresh-

judicious changes using the security tools within Windows Vista—and in some cases by adding a few pieces of free software—you can lock down your operating system like a security pro.

Consult the Windows Security Center

For a quick overview of your security settings, visit the Windows Security Center, where you'll find the status of your system firewall, automatic update, malware protection, and other security settings. Click *Start • Control Panel • Security Center*, or just click the shield icon in the task tray.

If you see any entries with red or yellow shading, you are not fully protected. For example, if you haven't yet installed an antivirus product, or if your current antivirus product is out-of-date, the Malware section of the



SOFTWARE EXPLORER, which you can reach through Windows Defender, displays lists of applications from several categories.

Security Center should be yellow. Windows doesn't offer a built-in antivirus utility, so you must install your own. For free antivirus, I recommend AVG Anti-Virus 8 (find.pcworld.com/61327).

Use Windows Defender as a Diagnostic Tool

The Security Center's Malware section also reports on antispyware protection, and for that security component Vista relies on Windows Defender. Though the antispyware protection in your antivirus utility usually trumps the protection that Microsoft supplies, there are several good reasons to keep Windows Defender enabled. One is that every antispyware program uses a different definition of what is and what is not spyware, so redundant protection can

offer some practical benefit.

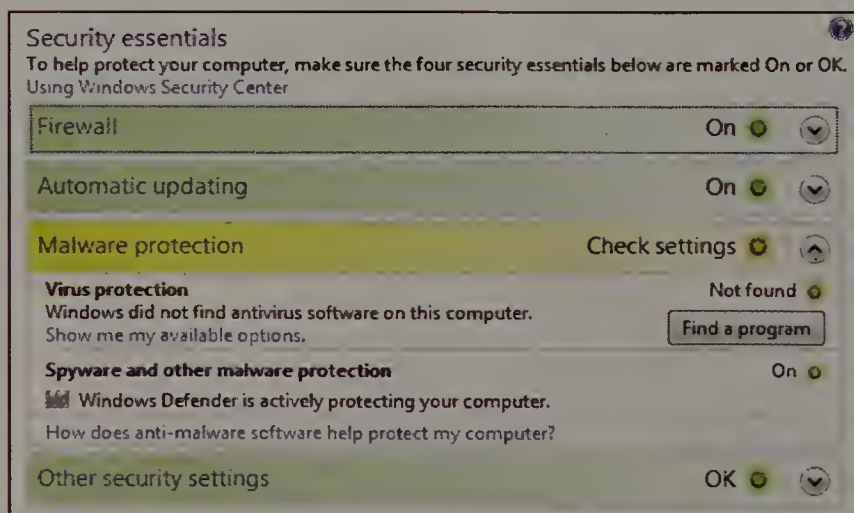
Another reason to keep Windows Defender enabled is diagnostics. Click *Tools*, and choose *Software Explorer* from the resulting pane. You can display lists of applications from several categories, including Currently Running Programs, Network Connected Programs, and Winsock Service Providers, but Startup Programs is perhaps the most useful. Click on any name in the left window, and full details will appear in the right pane. By highlighting any of the programs listed, you can remove, disable, or enable it.

Disable Vista's Start Up Menu

Windows Vista keeps track of all the documents and programs you launch in the Start Up menu. This can be

SECURITY SPECIAL REPORT

from-the-box configuration, Vista still leaves open the possibility that your personal data may leak out to the Web through Windows Firewall, or that some nefarious bot will alter your browser settings without your knowing it. But by making a few



IN WINDOWS SECURITY Center you'll find the status of your system's firewall, auto update, malware protection, and other security settings.

convenient for some users, but on the other hand it can compromise your privacy if you share a computer within an office or household. Fortunately Windows Vista provides an easy way to tweak this setting. To protect your privacy, follow these steps:

1. Right-click on the taskbar and select *Properties*.
2. Click the *Start Menu* tab.
3. Uncheck *Store and display a list of recently opened files*.
4. Uncheck *Store and display a list of recently opened programs*.
5. Click *OK*.

Arrange for Two-Way Firewall Protection

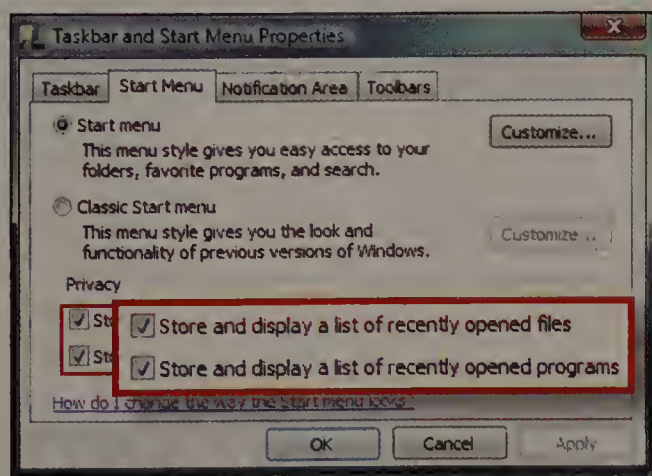
No desktop should be without a personal firewall, but even if the Security Center says you're protected, you may not be. The Windows Firewall that Vista contains blocks all incoming traffic that might be malicious or suspicious—and that's certainly a good thing. But outbound protection is not enabled by default. That's a dangerous situation if some new malicious software finds its way onto your PC.

Microsoft did include the tools for Windows Vista to have a true two-way firewall, but finding the setting is a bit complicated. (Hint: Don't bother looking in the Windows Firewall settings dialog box.)

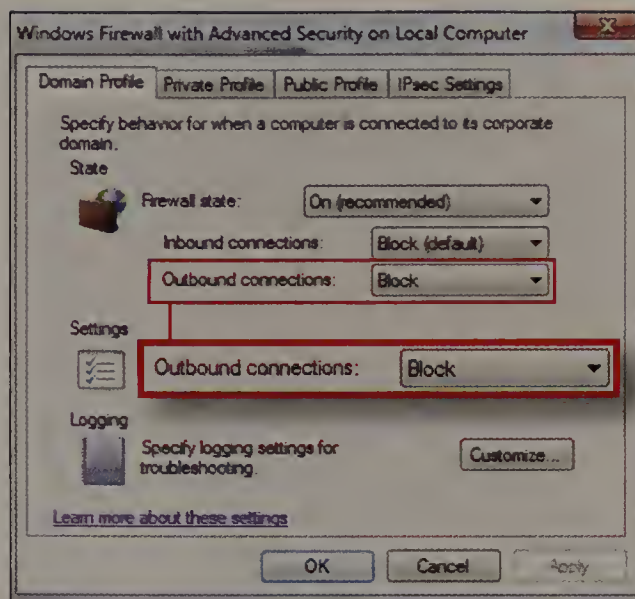
To get two-way protection in Windows Vista, click the *Start* button; in the search space, type *wf.msc* and press <Enter>. Then click the *Windows Firewall with*

Advanced Security icon. This management interface displays the inbound and outbound rules. Click *Windows Firewalls Properties*. You should now see a dialog box that contains several tabs. For each profile—Domain, Private, and Public—first change the setting to *Block* and then click *OK*.

Enabling the two-way firewall will, however, block all applications from accessing the Internet; so before you leave Windows Firewall with Advanced Security, scroll down to and click *Outbound Rules* and then *New Rule* in the upper-right corner. Select *Program*, and on the next screen browse to the program path for Internet Explorer, iTunes, or whatever applications you have that require access to the Internet. For each one, on the next screen, select *Allow the connection*, and then name each rule you create. You will need to create a new rule for every app that accesses the Internet.



WINDOWS VISTA KEEPS track of all of the documents and programs that you launch in the Start Up menu.



THE WINDOWS FIREWALL located within the Vista operating system blocks all incoming traffic that looks malicious or suspicious. Unfortunately, by default, the firewall's outbound protection is not enabled.

Ultimately, I recommend introducing a more robust third-party firewall for better protection. Go with either Comodo Firewall Pro (find.pcworld.com/61961) or ZoneAlarm (find.pcworld.com/62327), both of which are free and have fared well in independent firewall testing.

Lock Out Unwanted Guests

If you share your PC with others (or even if you don't), Windows Vista includes a convenient way to prevent unwanted guests from correctly guessing your system-administrator password.

When you set up users and declare one user as administrator (with full privileges), Windows Vista allows outsiders unlimited guesses at the password that you chose. Here's how to limit the guesses.

1. Click *Start*, and then type *Local Security Policy*.
2. Click *Account*

Lockout Policy.

3. Choose *Account Lockout Threshold*.

4. At the prompt, enter the number of invalid log-ins you'll accept (say, 3).

5. Click *OK* and close the window.

Audit Your Attackers

With the Account Lockout policy in place, you can now enable auditing to see any attempted attacks on your

account. To turn on auditing for failed log-on events, perform the following steps:

1. Click the *Start* button, type *secpol.msc*, and then click the *secpol* icon.
2. Click *Local Policies* and then *Audit Policy*.
3. Right-click the *Audit account logon events policy* option and then select *Properties*.
4. Check the *Failure* box, and click *OK*.
5. Right-click the *Audit logon events policy* option, and then select *Properties*.
6. Check the *Failure* box, and click *OK*.
7. Close the Local Security Policy window.

At this point you can use the Event Viewer (by running *eventvwr.msc*) to view the logs maintained under Windows Logs and Security.

Secure Your Internet Explorer Settings

The Windows Security Center will also report whether your Internet Explorer 7 (or IE 8) security settings are at their recommended levels. If the screen shows this section highlighted in red, >>

you can adjust the settings within the browser.

1. In Internet Explorer's menu bar, click *Tools*.

2. In the drop-down list, click *Internet Options*.

3. Select the *Security* tab.

4. Within the Security tab, click *Custom Level*.

Here you'll see a window with all the browser's security options. If any are below the recommended level (perhaps because malware reconfigured your browser settings), these options will be highlighted in red. To alter an individual setting, click the appropriate radio button. To reset them all, use the button near the bottom of the tab. You can change the overall security setting for Internet Explorer from the default Medium-High setting to the recommended High or Medium, if you like. Click *OK* to save and close.

Use OpenDNS

Domain Name System (DNS) servers act as a phone book. When you type a domain name such as 'pcworld.com' in the address bar, for instance, Internet Explorer sends that common-name request to your Internet service provider's DNS servers, which then convert the alphanumeric character string into a series of numbers, or an IP address. DNS servers have come under attack in recent years, as enterprising online criminals seek to redirect common DNS preferences to servers that their interests control. One way to prevent such abuse is by

working with OpenDNS.

Go to *Start • Control Panel • Network and Internet*, and then click *Network and Sharing Center*. Under the tasks listed on the left, click *Manage Network Connections*. In the Manage Network Connections window, perform the following steps.

1. Right-click the icon representing your network card.

2. Click *Properties*.

3. In the Properties list, click *Internet Protocol Version 4*.

4. Click the *Properties* button in the ensuing screen.

5. Select the *Use the following DNS server addresses* button.

6. Type in a primary address of **208.67.222.222**.

7. Type in a secondary address of **208.67.220.220**.

8. Click *OK*.

Live With User Account Control

One area where some people might want to see the Windows Security Center turn red is in Vista's User Account Control (UAC), perhaps the most controversial security feature within the Vista operating system. Designed to keep rogue remote software from automatically installing (among other things), UAC has a tendency to thwart legitimate software installations by interrupting the process several times with useless messages. In Windows 7 you'll be able to set UAC to the level you want. Until then, you do have some options.

One possibility is to disable UAC. I would caution

against that, since UAC is meant to warn you of potential danger. Instead, install TweakUAC (find pcworld.com/61960), a free utility that allows you to turn UAC on or off and offers an intermediate "quiet" mode that keeps UAC on but suppresses administration elevation prompts. With TweakUAC in quiet mode, UAC will seem to be off to users with administrator accounts, but those with standard user accounts will still be prompted.

Check Your Work

Now that you have tweaked Windows Vista, you can keep tabs on your machine's security with the System Health Report. This diagnostic tool takes input from the Performance and Reliability Monitor and turns it into an information-packed report that can spotlight potential security problems.

1. Open *Control Panel*.

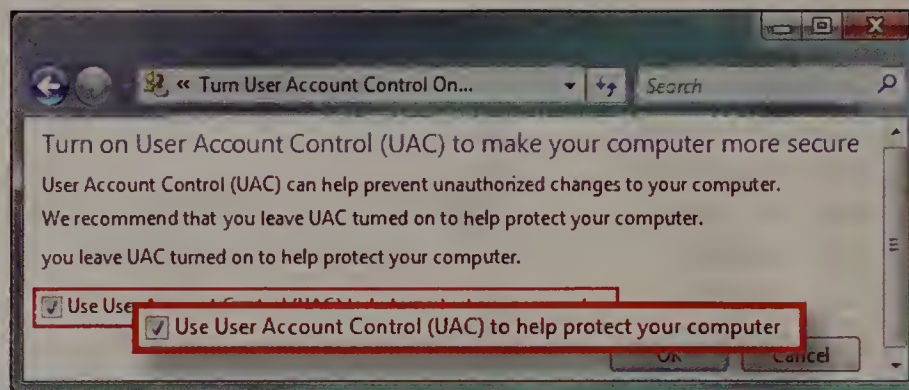
2. Click *System*.

3. In the Tasks list, click *Performance* (near the bottom of the list).

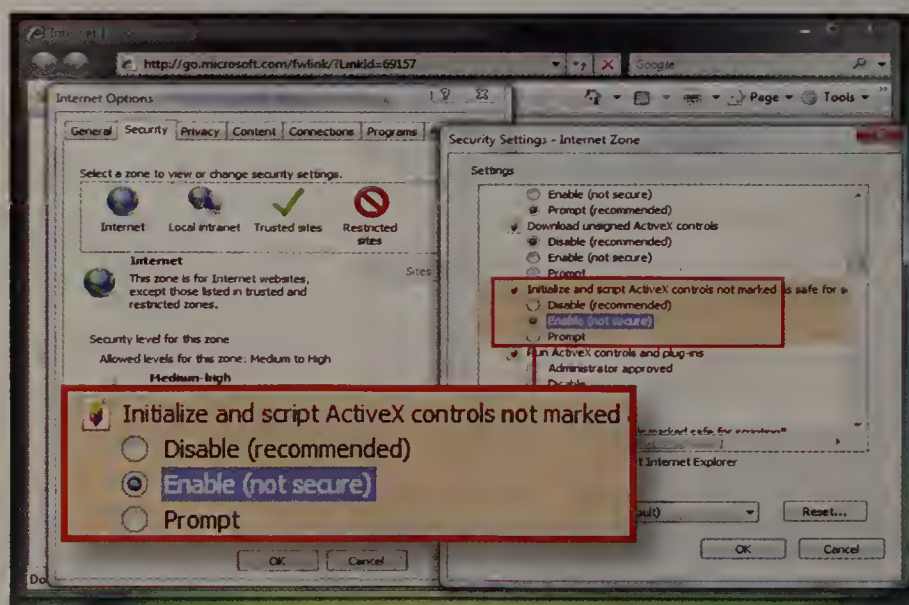
4. In the resulting Tasks list, click *Advanced tools* (near the top of the list).

5. Click the last item on the resulting list: *Generate a system health report*.

The report will list any missing drivers that might be causing error codes, will tell you whether your antivirus protection is installed, and will declare whether UAC is turned on. You may want to run this report once a month just to make sure that everything is still good.



DESIGNED TO PREVENT rogue remote software from automatically installing (among other things), UAC tends to thwart legitimate software installations by interrupting the process several times with useless messages.



THE WINDOWS SECURITY Center will report whether your Internet Explorer security settings are currently adjusted to their recommended levels.

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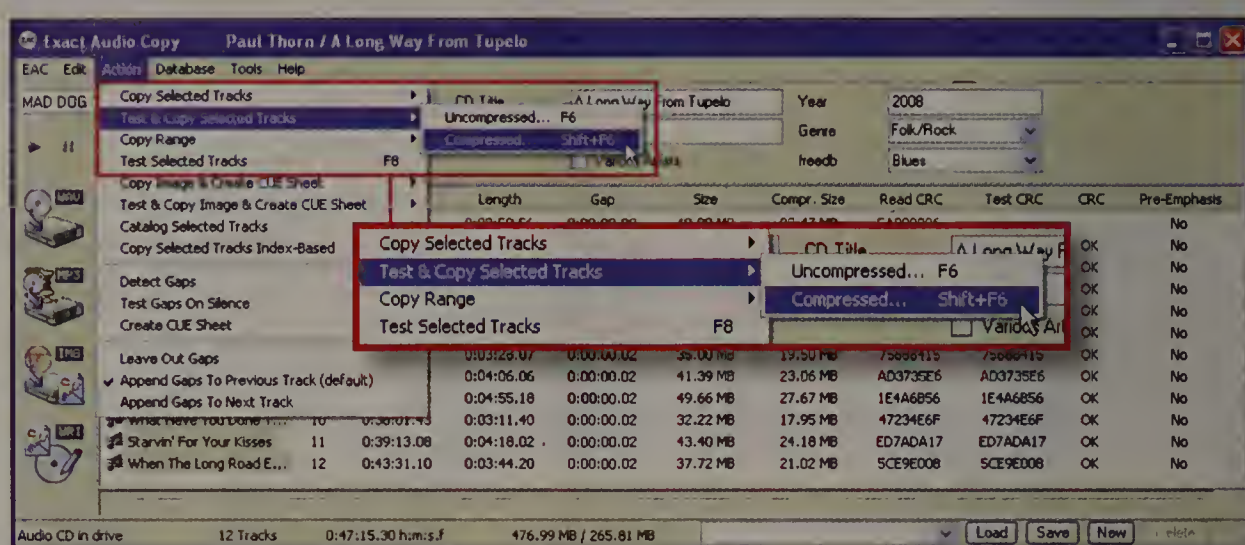
MOST ONLINE music merchants, including Apple's iTunes Store, use lossy codecs such as MP3 and AAC with bit rates that max out at 256 kilobits per second. They want you to cram as much music as possible onto your PC or portable device, regardless of audio fidelity. When you listen to music encoded in this way, you're not hearing everything that the recording artist created.

I'll show you how to rip tracks from CD and encode them to FLAC (Free Lossless Audio Codec), which delivers compressed but bit-by-bit accurate copies of your music (much as zipping a text file with a compression algorithm can reduce the size of the file without losing any text). All you need is a PC with an optical drive, some free software, and your collection of audio CDs.

Get Exact Audio Copy

You'll need to download and install the free Exact Audio Copy (exactaudiocopy.de) for this step. EAC is powerful and flexible, and it delivers extremely accurate results.

The EAC installation will also automatically install the included free FLAC codec (unless you tell the program otherwise). You'll find support for FLAC in some of the best music-streaming devices on the market, including the Sonos Digital Music System, Logitech's Transporter and Squeezebox series, and Olive's Opus No. 4. Finding FLAC support on portable music players is a little more difficult, though nearly every



USE THE FREE Exact Audio Copy utility to ensure that you're getting perfectly accurate rips of your CDs.

player that Cowon America manufactures can handle it. If you'd rather not replace your current player with one that supports FLAC, you can reencode or transcode FLAC files to another format, such as MP3, that your player does support.

Accept the EAC installation wizard's default choices by clicking the *Next* button at each prompt; then allow the program to test your CD drive's features. You don't need to make any decisions until the installation wizard reaches its encoder selection step, at which point you should select *FLAC*.

If you'd like to use the free online database service Freedb to download details about the CDs you rip (album and song titles, for instance), enter your e-mail address when prompted; this won't lead to spam, but feel free to use a fake address if you are paranoid. The program uses this infor-

mation to create ID3 tags for the files you create. In the next step use the default file name value (you'll change it later); then choose the expert option and click *Finish*.

Install AccurateRip

Audio purists want rips to be as accurate as possible. AccurateRip (accuraterip.com), a third-party Exact Audio Copy plug-in, helps achieve that goal. EAC enables AccurateRip by default. Each time you rip a CD, AccurateRip compares your results with

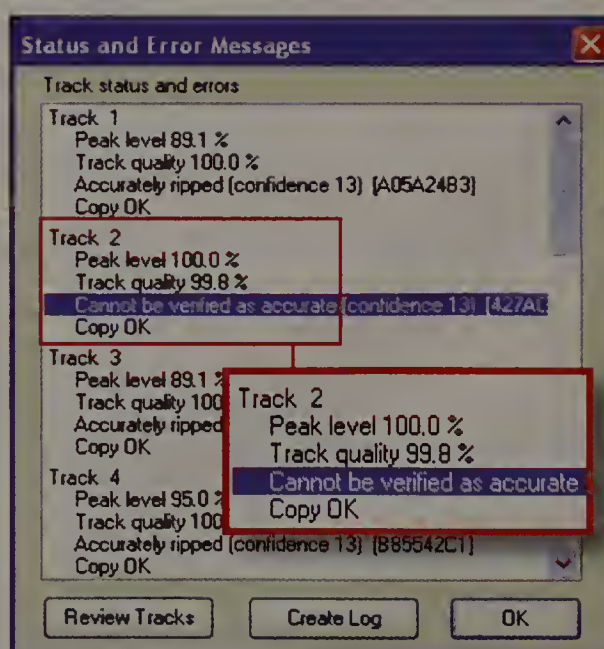
the results that other people obtained for the same CD. (A rainbow-colored CD icon in EAC's bottom-right corner informs you if the CD is in the AccurateRip database; if it isn't, you can contribute your results later.)

When the ripping process is complete, EAC will generate a confidence report: If your results are in line with everyone else's, your rip was entirely accurate. But if the comparison indicates that your results differ significantly from many other peo-

ple's (the program will report 'cannot be verified as accurate'), your disc may be faulty. Cleaning the disc may resolve that problem.

Set Extraction Options

Exact Audio Copy has a deep bag of tricks for yielding highly accurate results. Some of these tools are native to the program; others are plug-ins created by outside develop-



ACCURATERIP IS A free third-party plug-in for Exact Audio Copy that will compare the results of your rip with the results that other people got.

ers. I use a few of each to achieve the best possible rips—even from badly scratched CDs. Here I'll mention only the ones whose default values I recommend changing. To get started, click the *EAC* menu and choose *EAC Options* from the drop-down list.

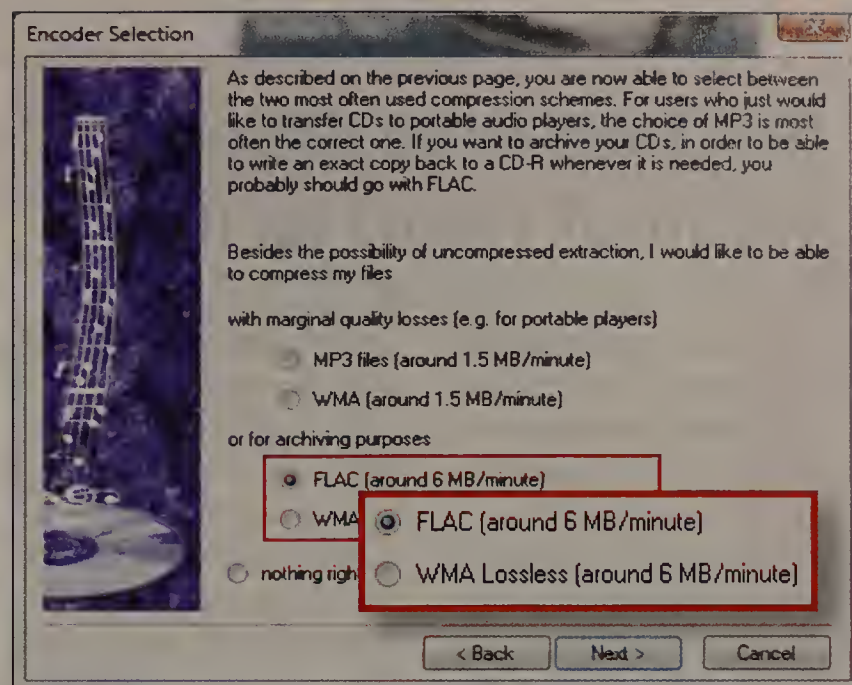
Uncheck the item labeled *No use of null samples for CRC calculations*. This will deliver more-accurate results and ensure that your ripped tracks are compatible with the widest array of software players. Uncheck *Lock drive tray during extraction* so that you can open the drive if the program freezes or crashes during the ripping process. Last, change the values for 'Extraction and compression priority' and 'Error recovery quality' from their default values to *High*. That may slow the ripping process, but it will produce better results. Leave everything else at its default value.

Click the *General* tab, click the check box next to *On unknown CDs*, and select the option to access the Freedb database automatically. Leave everything else at its

default value, skip over the Tools tab and the Normalize tab, and select *Filename*. This is where you'll tell EAC how to name the files that it rips for you and how to organize them on your hard drive. Type the following character string in the 'Naming scheme' box: %A%\C%\N - %T

Check the box labeled *Use various artist naming scheme* and type the following character string in the box beneath it: Various Artists%\C%\N - %A %T

The instructions in the previous two steps tell EAC to create a nested directory structure in which each artist has a dedicated subdirectory, with subdirectories for each album title (compilation CDs and soundtracks will be stored in a subdirectory labeled 'Various Artists'). Click the *Directories* tab and enter the main directory where you want to store your ripped CDs (My Music, for instance). If you were to rip the Dire Straits CD *Love Over Gold* to your My Music folder, for example, the resulting directory (and the first track) would look something like: C:\My Documents\My Music\Dire



DURING THE SETUP process for the Exact Audio Copy software, choose FLAC to serve as the program's default audio format.

Straits\Love Over Gold\01 – Telegraph Road.flac. Ignore the rest of EAC's extraction options and click *OK*.

Mind the Gaps

Commercially recorded CDs usually have gaps in between their tracks. Most gaps contain digital silence, but some contain a fade from a previous track, an introduction to the next track, or even an entire song (a so-called hidden track). A CD player will play a gap's content only when the tracks are automatically played in sequential order; in other words, if you skip to Track 3, you won't hear anything that might have been encoded in the gap preceding Track 3.

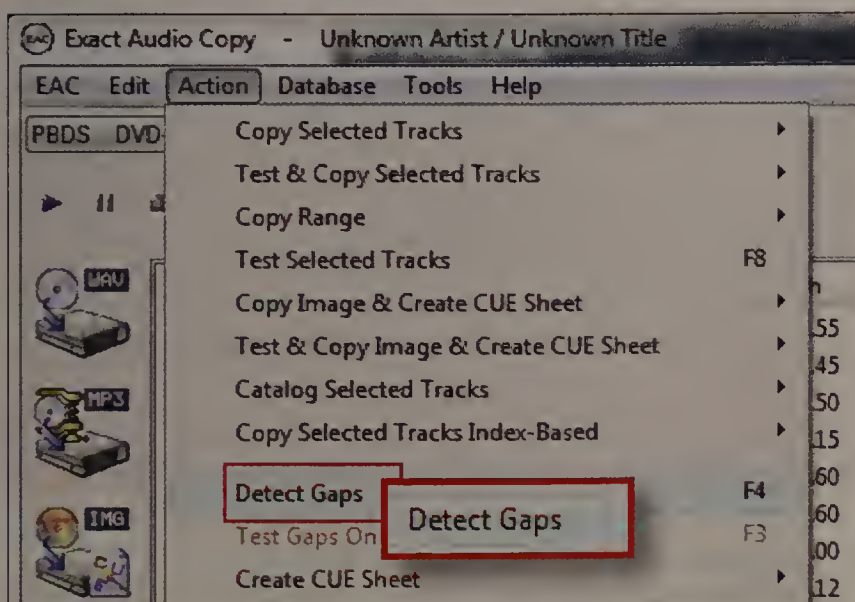
When you rip the CD, EAC will default to appending each gap to the previous track. If you want the program to append the gap to the next track, or if you want to omit the gap entirely (despite possibly losing important audio material), press <F4> to have EAC detect gaps on the CD. Click the *Action* menu, and then select the option you prefer.

Rip Some Tracks

The great majority of the work involved in using Exact Audio Copy to rip CDs takes place during the setup procedure. The actual ripping process is amazingly simple: Drop the disc of your choice into the drive tray, click the *Action* menu, and then select *Test and Copy Selected Tracks* (using the *Compressed* option from the submenu). EAC will sequentially test, rip, and compress each of the tracks on the CD to a FLAC file. Then, after each compression step, the program will delete each .wav file.

At the end of the ripping process, EAC will generate a 'Status and Error Messages' report. The most important information contained in this report is the assessment of whether each track was accurately ripped, based on findings from the Accurate-Rip database. You may want to save the log in the folder with the ripped tracks for future reference. Repeat this step with your entire CD library (or as much of it as you think you'll want to stream).

—Michael Brown



TO INSTRUCT EXACT Audio Copy to find the gaps between tracks automatically, click 'Action' and select 'Detect Gaps', or press <F4>.

Get Into Free Sites Without Registering

ARE YOU TIRED of having to register on a free Web site just to read a news article or view some pictures of your relatives? Rather than registering on such sites (and risking a barrage of annoying spam), many people forget about the news item or put off seeing how their nieces and nephews are doing until their next vacation.

But I have an easy way to get members-only content without enduring the hassle of signing up for an account. Whenever family and friends send me links to registration-required sites, I turn to BugMeNot (www.bugmenot.com) to slip past most of these requirements. BugMeNot is

a free site that stockpiles user-generated account logins and passwords so that users don't have to provide their own personal info.

If you use Internet Explorer, go to the BugMeNot Web site and type in the URL of the site that you'd like to log in to. BugMeNot will return a list of user names and passwords that you can use to log in successfully.

The BugMeNot Firefox Extension automates the service for Firefox users. On the installation page (find.pcworld.com/62311), click *Add to Firefox*. Click *Accept and Install*, and a new window will open. When it does, click *Install Now*. Then restart Firefox.



DON'T WANT TO sign up for a MySpace account just to poke around? BugMeNot offers you a list of valid log-in credentials to choose from.

After you install the BugMeNot extension, the next time you encounter a required log-in prompt for a free site, right-click the username or e-mail address box and select *Login with BugMeNot*. Repeat the process if

the initial attempt doesn't work; the plug-in might have used old information the first time around. Otherwise, you should slide into the registration-required content without a hitch.

—Zack Stern

ANSWER LINE

? How do I delete some but not all of my browsing history? —Anonymous

SELECTIVELY ERASING your online tracks is usually simple. For Internet Explorer users, PCW forums member Adama suggests this method: Click *Tools•History* for a list of visited sites. Right-click an entry you want to lose, and choose *Delete* from the context menu.

In Firefox, press **<Ctrl>-H** on your keyboard to open your History panel. Find the offending page, right-click it, and select *Delete*.

To get rid of a listing in the address bar's drop-down menu, point at the item with your mouse and press **<Delete>** on your keyboard.

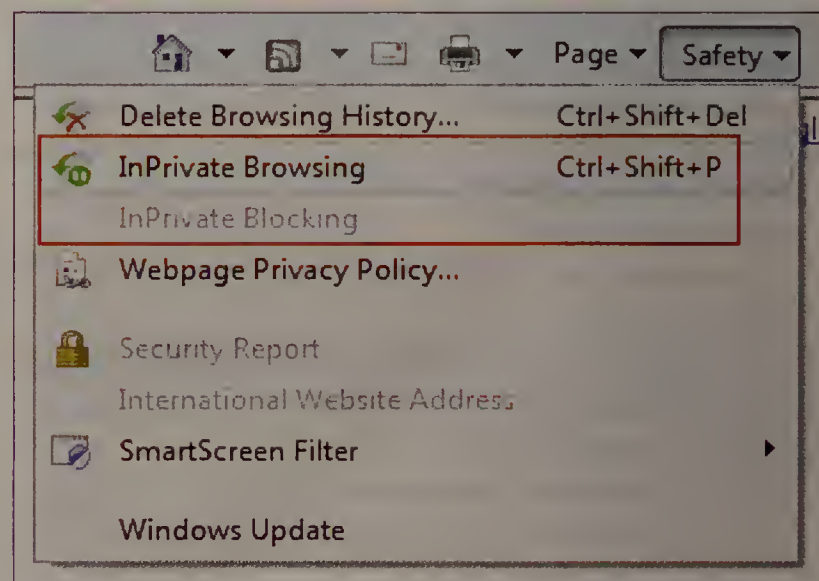
If you use Firefox 3.0, the item may lurk in the history long after it disappears from the visible list. If you start typing the unwanted domain name in the address bar, though, the drop-down screen will display the tell-tale page. Delete as described above.

The next generation of browsers will eliminate the need to do this. They all come with a special mode that lets you surf in secret.

The versions of IE and Firefox containing the privacy-mode feature are still in beta, so use them at your own risk. I'll include the instructions here in case you're willing to try beta software.

To enter IE 8's private mode, select *Safety* (in the upper-right corner) and then *InPrivate Browsing*. A second browser window will open, with an 'InPrivate' logo next to the address bar.

ASK YOUR QUESTION AT FORUMS.PCWORLD.COM



THE PRIVATE SURFING mode in coming versions of Internet Explorer (pictured), Firefox, or Google Chrome can help you hide your tracks.

If you use Firefox 3.1 and wish to surf privately, choose *Tools•Private Browsing*. Firefox will save and close your current tabs and bring you to a blank one. Uncheck *Private Browsing* to close your current tabs and reopen the ones Firefox saved earlier.

Google Chrome is out of beta, so it may be safer. To enter its Incognito Mode, click the *Tools* icon and select *New incognito window*.

—Lincoln Spector

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Microsoft costs sourced from Ferris Research white paper: *The TCO of Microsoft Unified Communications*, November 2008. The full report is available at www.unison.com/ferris.



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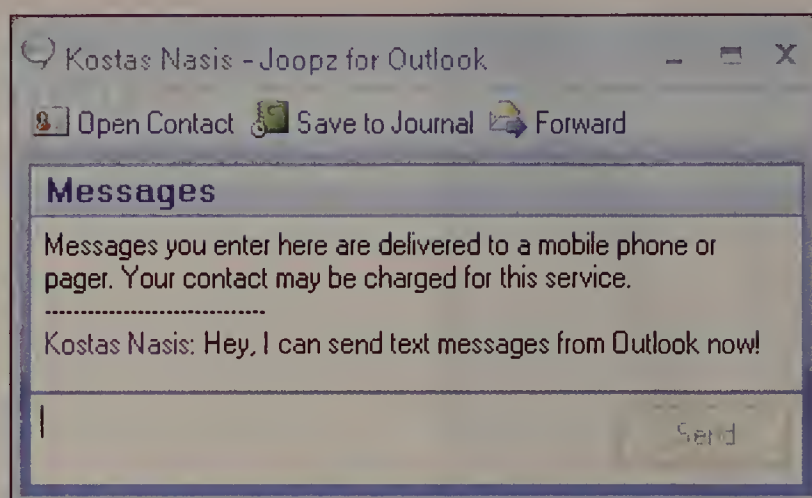
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OMG RU TXTING FRM UR OUTLK? 2COOL!

IF YOU'RE addicted to text messages but not to typing comments on your phone's tiny keypad, take heart: You can send and receive texts straight from Microsoft Outlook, just as you can regular e-mail. It's great for dashing off a message to a group of people—or for keeping tabs on mobile colleagues within your normal workflow.

First, though, you must configure Outlook for SMS. Choose *Tools•Account Settings*, click the *E-mail* tab, and select *New*. Click *Other*, and choose *Outlook Mobile Service (Text Messaging)*. Click *Next*.

You'll have to link Outlook to a third-party service responsible for sending the messages. Among the available options are SMSOfficer



JOOPZ LETS YOU send and receive SMS text messages in Microsoft Outlook, so you don't have to type them on your phone's tiny keypad.

(www.smsofficer.com), Red Oxygen (www.redoxygen.com), and Joopz (www.joopz.com). Of the three, Joopz is the best bargain: For a monthly fee of \$3, it permits you to send an unlimited number of messages; alternatively Joopz offers a free account

that allows you to send 50 messages and to receive an unlimited number of them.

Enter the service's URL, your user ID (which is either a user name or your mobile phone number plus its country code, depending on the service you use), and

your password. Click *OK*.

To finalize your new account settings, restart Outlook and then choose *File•New•Text Message* to send a text. By definition, text messages are limited to 160 characters each; watch the preview on the left pane of the texting window to see whether your text will remain in one piece or will be automatically split up into multiple messages.

Fill out the *To:* field with one or more cell phone numbers (or with contacts taken from your address book), and Outlook will route the message to those numbers. Replies will come to your inbox, just as if they were regular e-mail replies.

—Zack Stern

ANSWER LINE

ASK YOUR QUESTION AT FORUMS.PCWORLD.COM

Is it safe to ignore Windows service packs? —Don Dalton, via e-mail

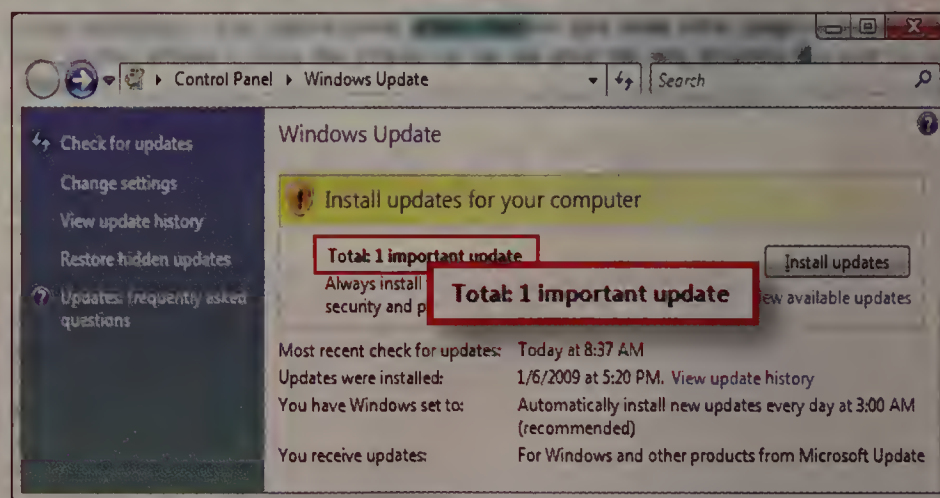
WINDOWS SERVICE PACKS—the major updates downloadable via Windows Update—pose a dilemma. Do you let Microsoft conduct a major, potentially damaging, remote-control overhaul of your operating system? Or do you ignore a service pack that promises to plug serious security holes and is likelier to fix something broken than to break something new?

Besides, if you don't update Windows now, the OS may not be able to accept later updates or run some new programs.

I usually wait about three months after a service pack appears before I install it. By then, subsequent updates have squashed most bugs, and all problems are fixed or reported.

But take a few precautions when you let Windows change itself:

1. Scan for malware, preferably with multiple programs. Use your installed antivirus program, and then try SuperAntiSpyware (find.pcworld.com/62312) or Malwarebytes (find.pcworld.com/62315).
2. Make a fresh image backup, just in case. If you don't have an image-backup program, see "Reinstall and Restore Your Windows PC in Eight Easy Steps" (find.pcworld.com/62313) for advice.
3. Close all of your apps before starting the update, and don't try to work on your PC until it's done and Windows has rebooted—



HAVE YOU BEEN holding off on installing the latest Vista service pack? It's a good idea to wait until other users have worked through any possible bugs.

even if the update tells you that you can safely continue working.

If you still have problems after waiting some months and installing the update carefully, search the Web for solutions specific to your hardware and installed programs. Check forums, too, including ours at forums.pcworld.com. A reader recently posted a similar question on the Answer Line forum, mentioning that he had an HP system with an AMD processor. Fellow reader Tech4me then recognized the problem and pointed to a solution on HP's Web site.

—Lincoln Spector

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Easy Fixes for Internet and Touchpad Hassles

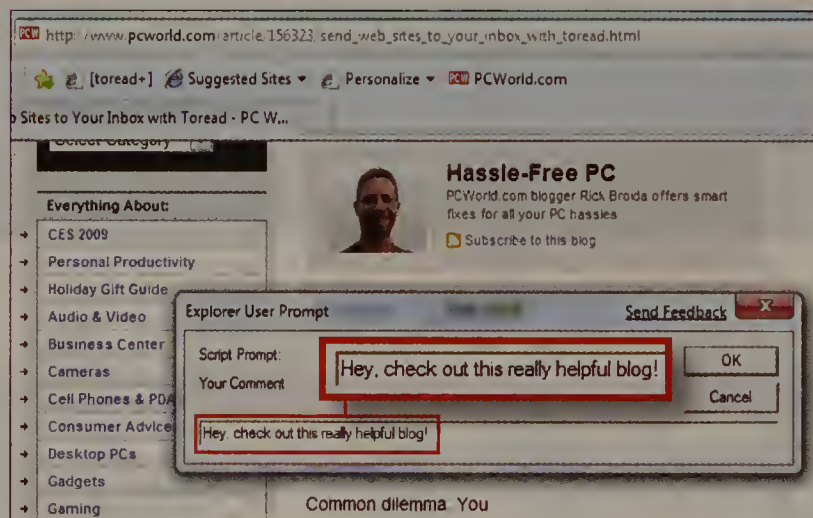
I'M ALWAYS ON the lookout for ways to get more done online, whether from a handy online service or a quick tweak to my system settings. This month, I'll show you one of each. Plus, I'll help you laptop users overcome the annoying accidental bumps that make your text cursor move around the screen while you're typing.

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You find a cool Web site that you want to revisit, but how do you remember that you want to revisit it? You could bookmark it, but then it might get lost or forgotten among your other bookmarks.

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If you like that, check out Toread's Tomobi, which converts Web pages into text-only content suitable for reading on your phone.

A Quick Fix for Slow Internet Access

Recently a neighbor asked me if my Internet access had been slow. (We subscribe to the same ISP.) I said no, it's been just fine. Then I offered him the suggestion I give most folks who complain about connectivity problems: Power-cycle your modem and router.

In other words, disconnect the power cords from both, wait 10 seconds, and then plug them back in. In a minute or two, your network will be up and running again, and your Internet access might be its good old speedy self. I say "might be" because there are many other possible culprits for pokey Internet connections.

For example, you might have a spyware problem. Or Windows' Internet settings might be faulty. If you're connecting via a wire-

Send yourself handy Web bookmarks, speed up your Internet connection, and prevent accidental touchpad touches.

less router, consult "How to Troubleshoot Your Home Network" (find.pcworld.com/62314) for help. Often, though, it's just a router and/or modem in need of rebooting. For the record, my neighbor told me the power-cycling trick worked like a charm.

Stop Accidental Touchpad Touches While Typing

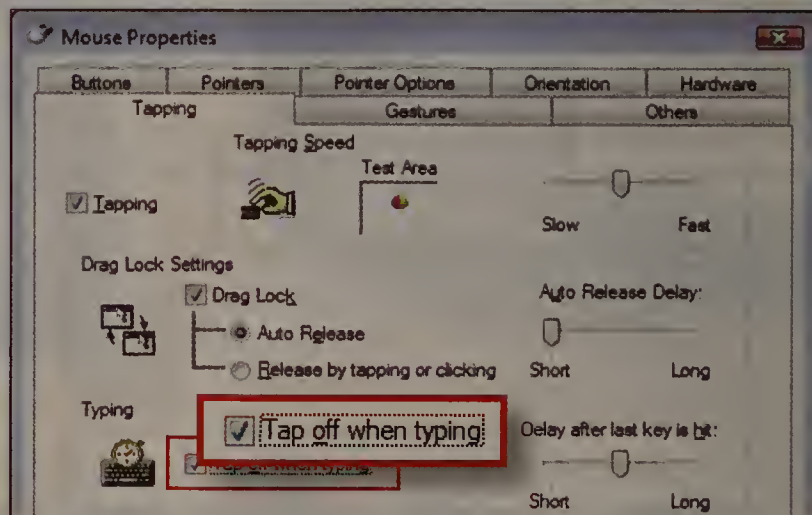
You're typing along on your laptop, when suddenly you notice that your cursor has jumped somewhere else in your document, seriously fouling up the text. What happened? Most often you accidentally brushed the touchpad with your thumb, relocating the cursor in the process. One option is to plug in a USB mouse, but some laptops leave the touchpad enabled even when a mouse is present.

By delving into Windows' Mouse settings, you may be able to find a fix. Unfortunately, different laptops have different touchpads and touchpad drivers, so the solution isn't universal.

Start by opening Control Panel and double-clicking *Mouse*. Click the *Device Select* tab if you see one, and enable *Disable TouchPad when USB pointing device is present*. No such option? On my Windows XP-based Acer Aspire One, I had to click the *Device Settings* tab and then the *Settings* button, and then pore over Synaptics' extensive touchpad options. I found what I needed in *Sensitivity • PalmCheck*: Moving the slider closer to *Maximum* made the touchpad more resistant to accidental brushes during typing.

On a Vista notebook, I found a *Tapping* tab in the *Mouse Properties* window. There, I enabled 'Tap off when typing', which prevents the touchpad from recognizing taps while I'm typing. If your laptop doesn't have this option, look for something similar.

The Samsung Q310 laptop comes with a convenient function-key toggle that lets the user turn the touchpad on or off with a single click. Hey, laptop manufacturers: Steal that feature! ●



ON MANY LAPTOPS you can disable the touchpad's tap sensor while you're typing, thereby reducing the number of accidental taps.

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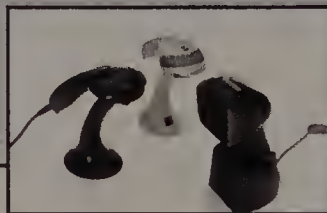
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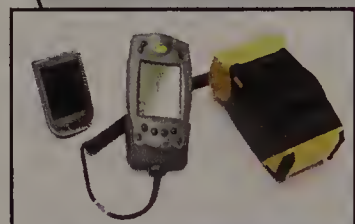
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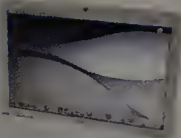
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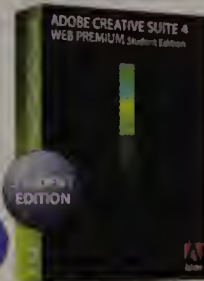
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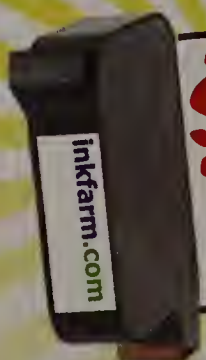
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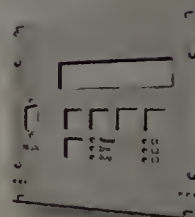
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TOUCH SCREEN

Touch-enabled displays and high-contrast OLED panels are two emerging trends for digital photo frames. Recently Kodak was first with the latter, but our 10.5-inch dream device uses both. In our case, touch permits intuitive navigation of image, video, and music files, as well as of VoIP services, widgets, RSS, and the Web.

WHAT WOULD you want? Go to find.pcworld.com/62345 and brainstorm with us.

CONNECTIVITY

Built-in 802.11n Wi-Fi to stream multimedia via networked PCs or the Web. Optional: 3G data or femtocell signal boosting.

PRINTING

Some real-world digital photo frames—SmartPart's SP8PRT (sold in the U.S.) and Keian's P71-A2-JP (Japan only)—can print. We'd print 4-by-6-inch photos using a similar dye-sub method, or maybe employ Zink's zero-ink technology, as Polaroid did for its portable Pogo printer.

CAMERA/WEBCAM

An integrated tilt-adjustable camera and microphone for multiparty VoIP video calls, Web conferencing, intercom use, and quick, happy snaps. The camera and frame can also work for basic video surveillance.

SHORTCUT STRIP

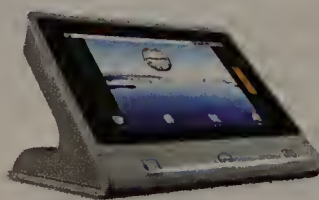
A touch-sensitive shortcut strip features Blue LED-backlit icons to switch power on or off, to access VoIP-phone and Web screens easily, or to adjust the volume.

PARTS LIST



Wave-Home | iRiver

What we took: Sleek design, touch screen, three-way VoIP video/voice phone, Web features. find.pcworld.com/62343



NIMble concept | Touch Revolution

What we took: Google Android OS, multitouch screen, VoIP video/voice phone, Web widgets. find.pcworld.com/62343



Femtocell 9100 | Motorola

What we took: Femtocell cell-phone signal boosting, touch screen, VoIP phone features. find.pcworld.com/62348



SP8PRT | SmartParts

What we took: Built-in 4-by-6-inch dye-sublimation printer, multifunction card reader. find.pcworld.com/62342

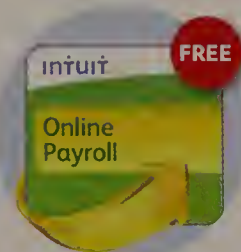
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"Fastest security suite anywhere" based on performance testing conducted by PassMark Software (Antivirus, Internet Security and Total Security Products Performance Benchmark (2009) Report, October 2008), on systems without security software previously installed and running Windows Vista.®

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